

IC VA HEALTH CARE SYSTEM
IOWA CITY, IOWA
SPECIALTY CLINIC ADDITION
VA PROJECT 636-315

DEPARTMENT OF VETERANS AFFAIRS

**AMENDMENT #2
APRIL 27, 2016**

**SPECIALTY CLINIC ADDITION
VA HEALTH CARE SYSTEM
IOWA CITY, IOWA**

VA PROJECT #636-315

BID DATE: _____ P.M. CENTRAL TIME

The information contained in this Addendum modifies, supplements or replaces information contained in the Project Manual and on the Drawings and is hereby made a part of the Contract Documents.

Acknowledge receipt of this Addendum by placing the appropriate addendum number in the blank on the Bid Form.

AMENDMENT INDEX

APPLICABLE TO THE PROJECT MANUAL: None.

APPLICABLE TO THE DRAWINGS: Item #1 through Item #1 inclusive.

ATTACHMENT(S): SHEETS: 50-P2, 50-P7, 50-P11, 50-P12, 50-M4, 50-M7, 50-M8, 50-M9, 50-M10, 50-M13, 50-M15, 50-M19, 50-M24, 50-M26, 50-M28, 50-M29, 50-E3

APPLICABLE TO THE PROJECT MANUAL:

NONE

APPLICABLE TO THE DRAWINGS:

ITEM #1 SHEET 50-E4 and 50-E5

- A. **REVISE** each exam room, duplex receptacle located within 6' of the exam room sink shall be a ground fault interrupter receptacle.

SUPPLEMENTAL DRAWINGS: Indicating supplemental drawings issued for reference only, all information shown to be verified in field.

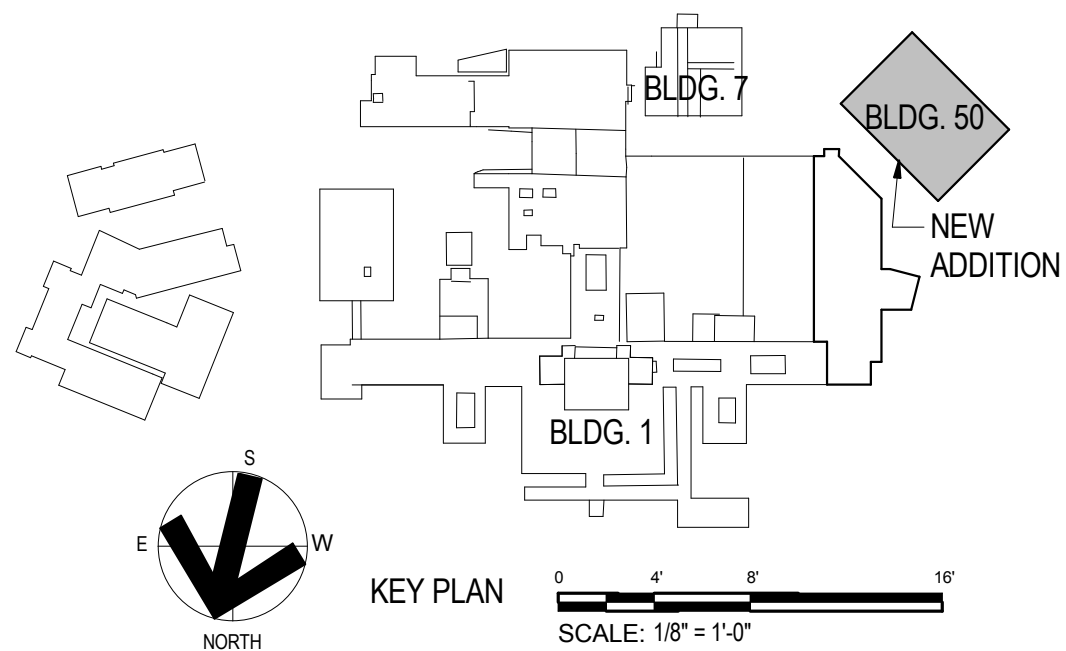
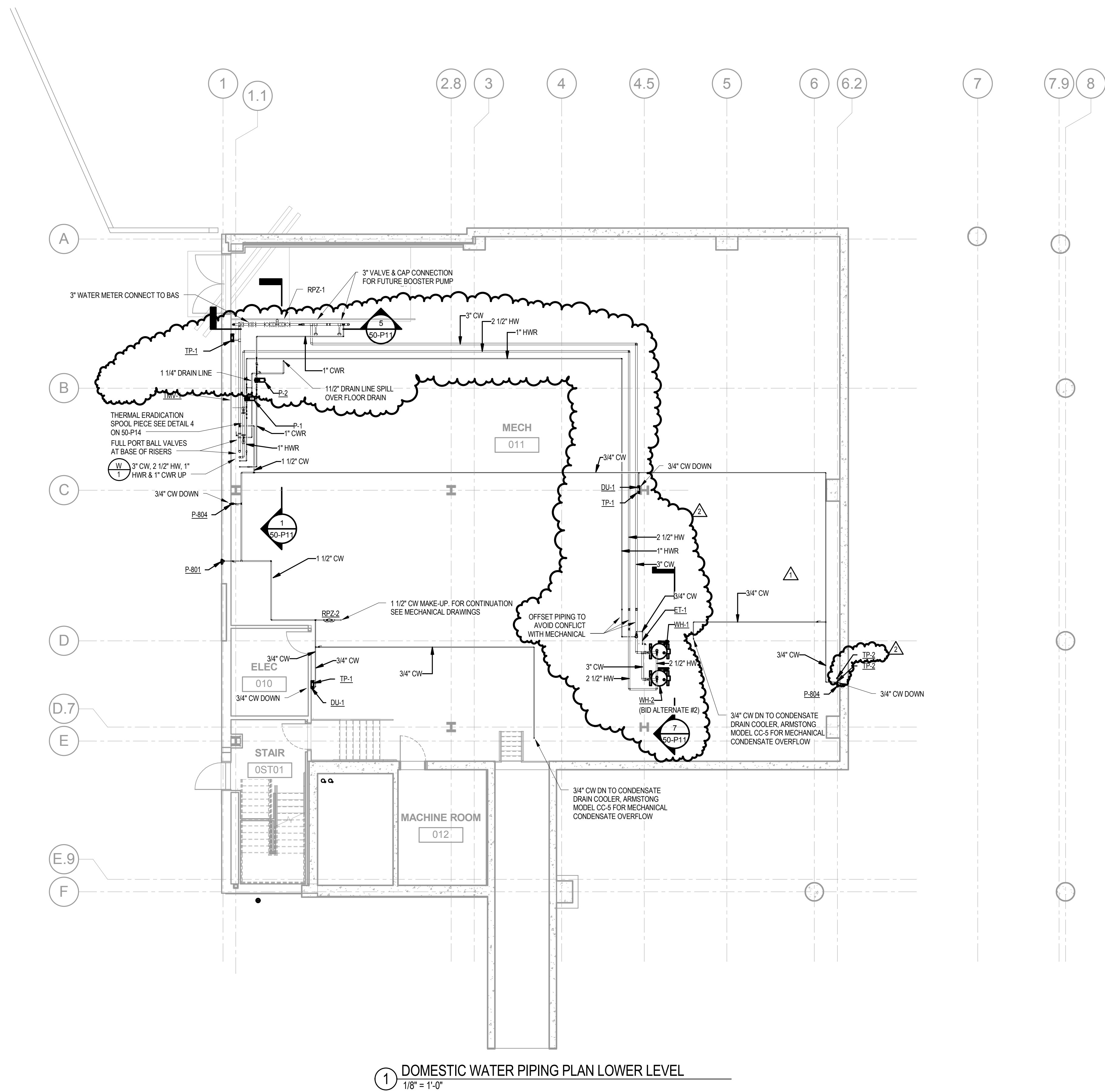
NONE

END OF AMENDMENT #2

VA FORM 08-6231, FEB. 1983

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three inches = one foot
one and one-half inches = one foot
one inch = one foot
three-quarters inch = one foot
one-half inch = one foot
three-eighths inch = one foot
one-quarter inch = one foot
one-eighth inch = one foot



Amendment 1	04/25/16
Amendment 2	04/27/16
Revisions	Date

CONSULTANTS:

ARCHITECT/ENGINEERS:

project number
HII-1125509

Heery International Inc.
125 South Dubuque Street,
Suite 500,
Iowa City, IA 52240-4003
319.354.4700

Drawing Title
DOMESTIC WATER PLAN LOWER LEVEL

CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT SPECIALTY CLINICS ADDITION

Location
ICVA HEALTH CARE SYSTEM

Date
09/25/2015

Checked
CLJ

Drawn
DHA

Building No.
BLDG 50

Project No.
VA# 636-315

DRAWING NO.
50-P7

Dwg. of

Office of
Construction
and Facilities
Management

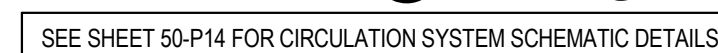
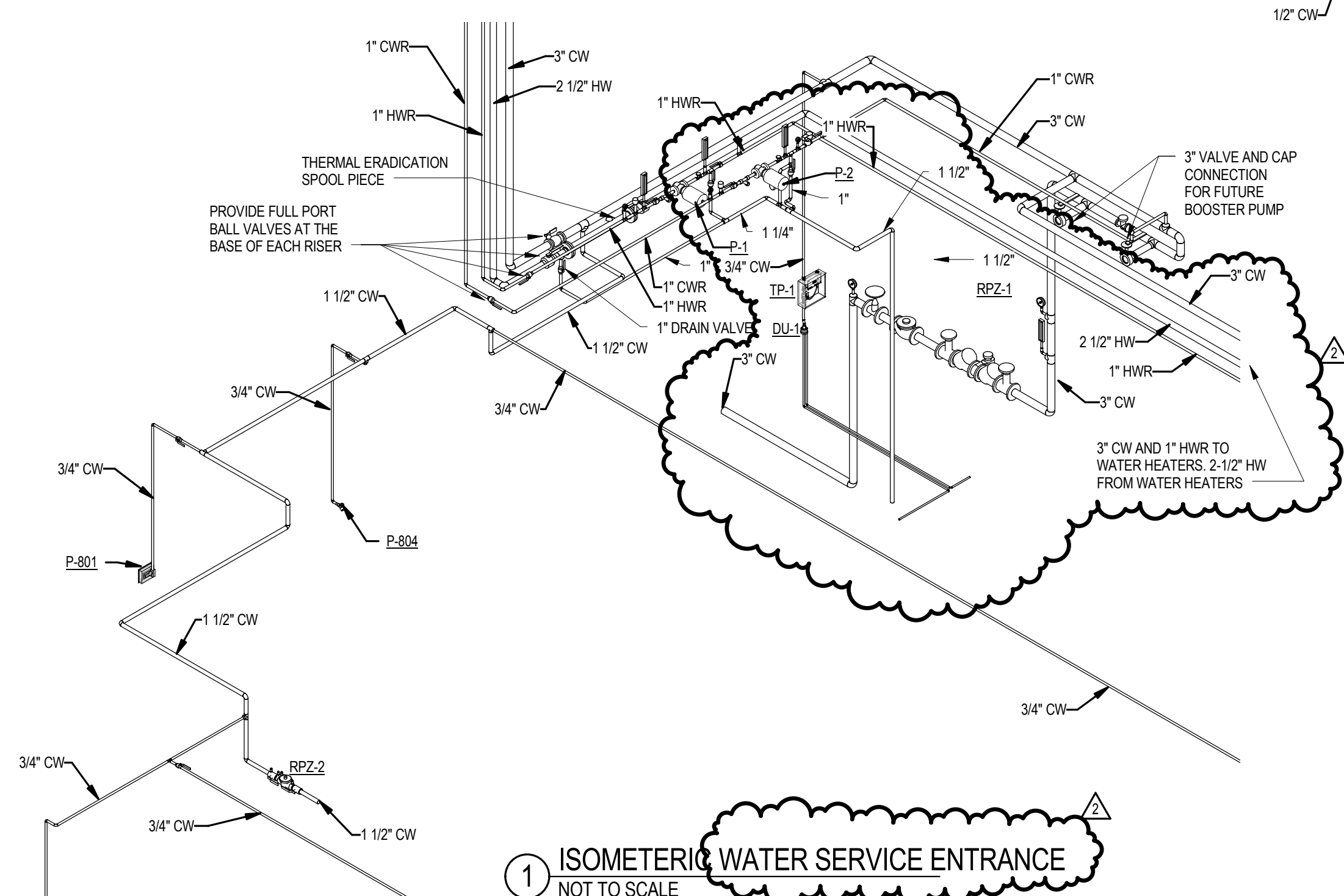
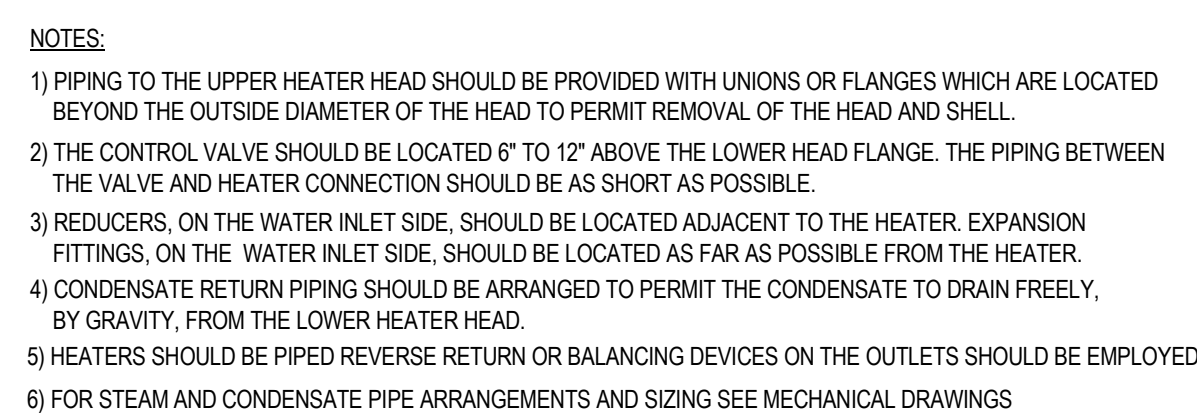
CONSULTANTS:

project number
HII-1125509

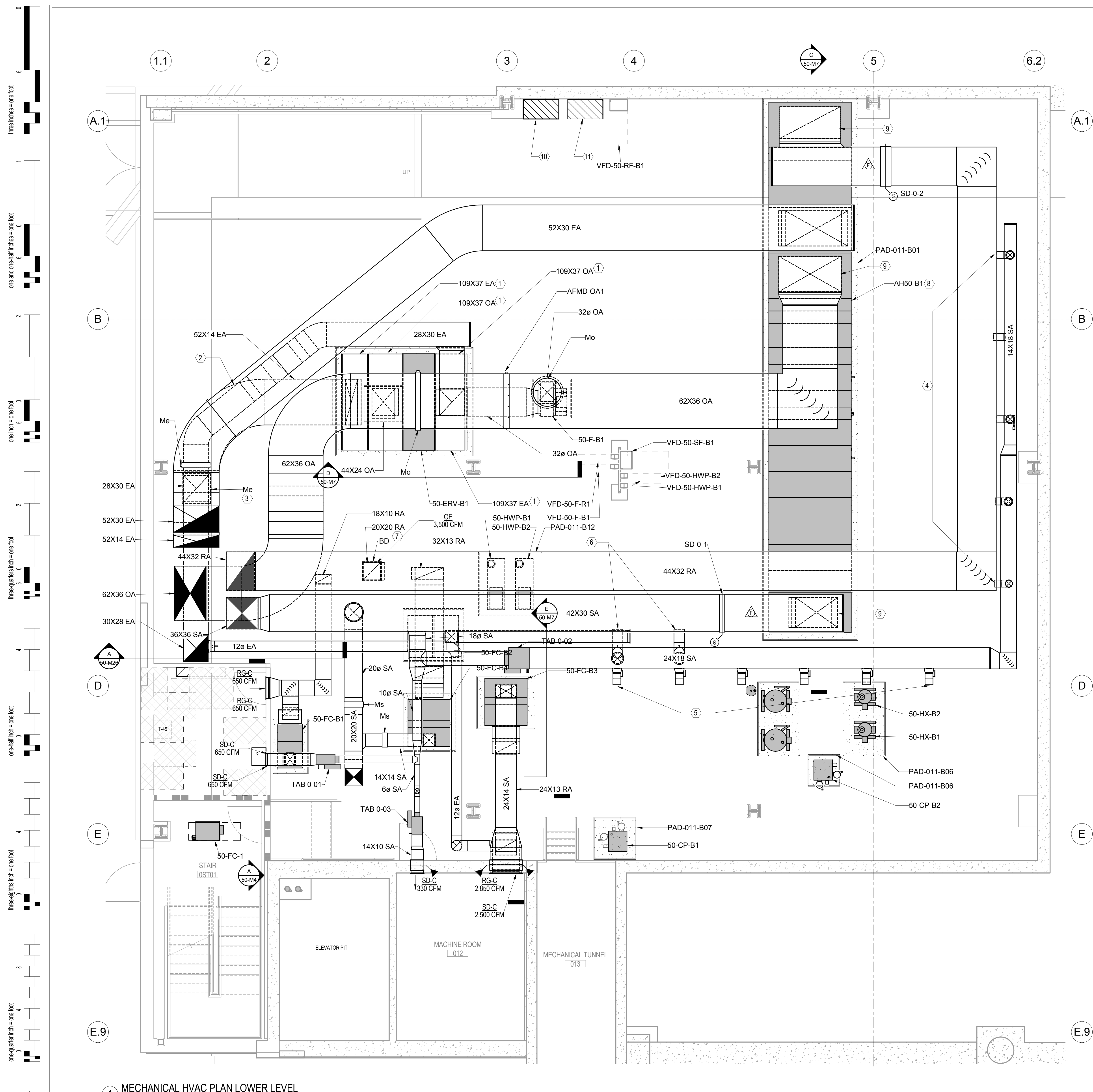
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Office of
Construction
and Facilities
Management

CONSULTANTS:

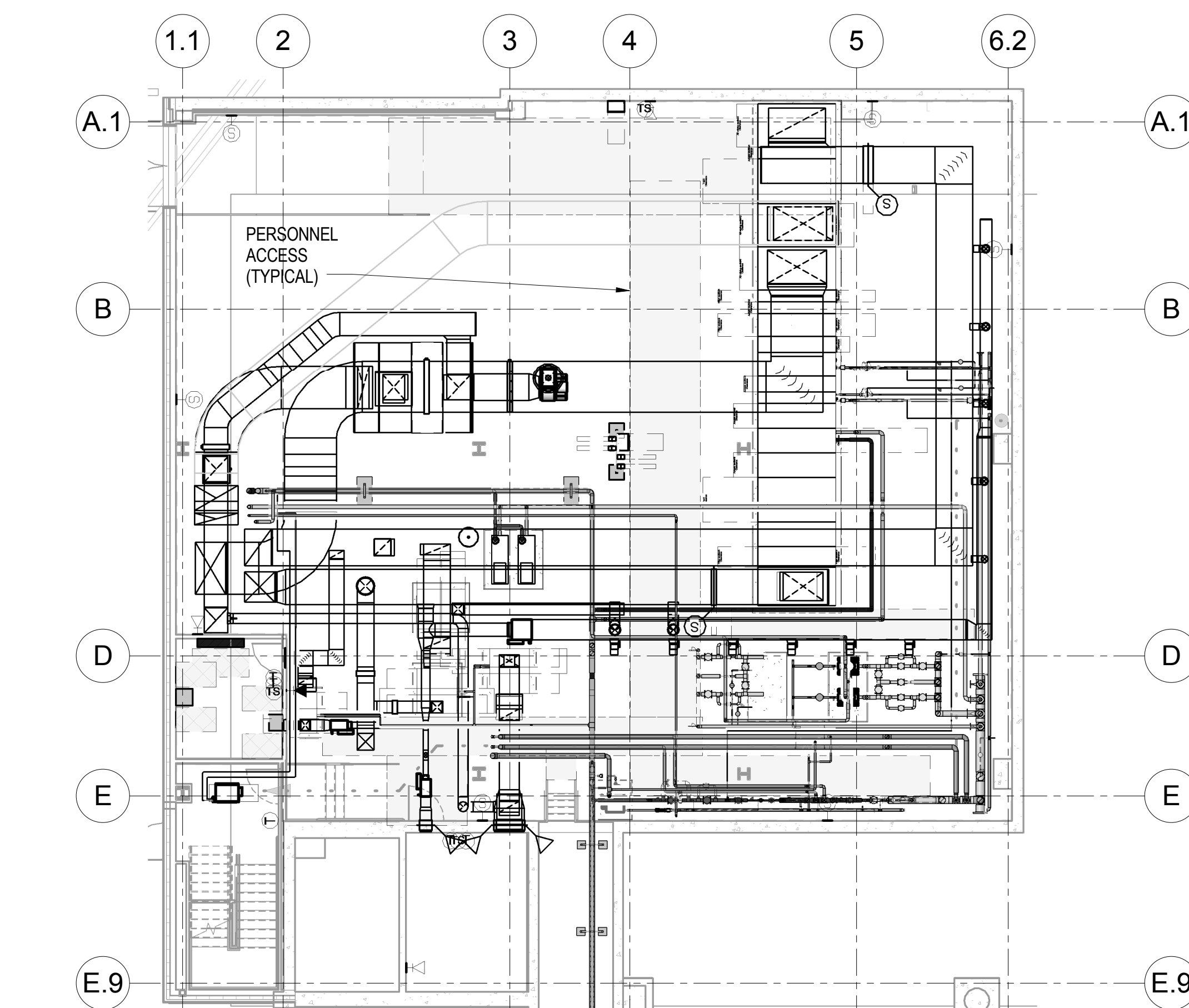
Office of
Construction
and Facilities
Management



1 MECHANICAL HVAC PLAN LOWER LEVEL
1/4" = 1'-0"

A SECTION @ ROOM 010
1/4" = 1'-0"

2 MECHANICAL COORDINATION PLAN LOWER LEVEL
NOT TO SCALE



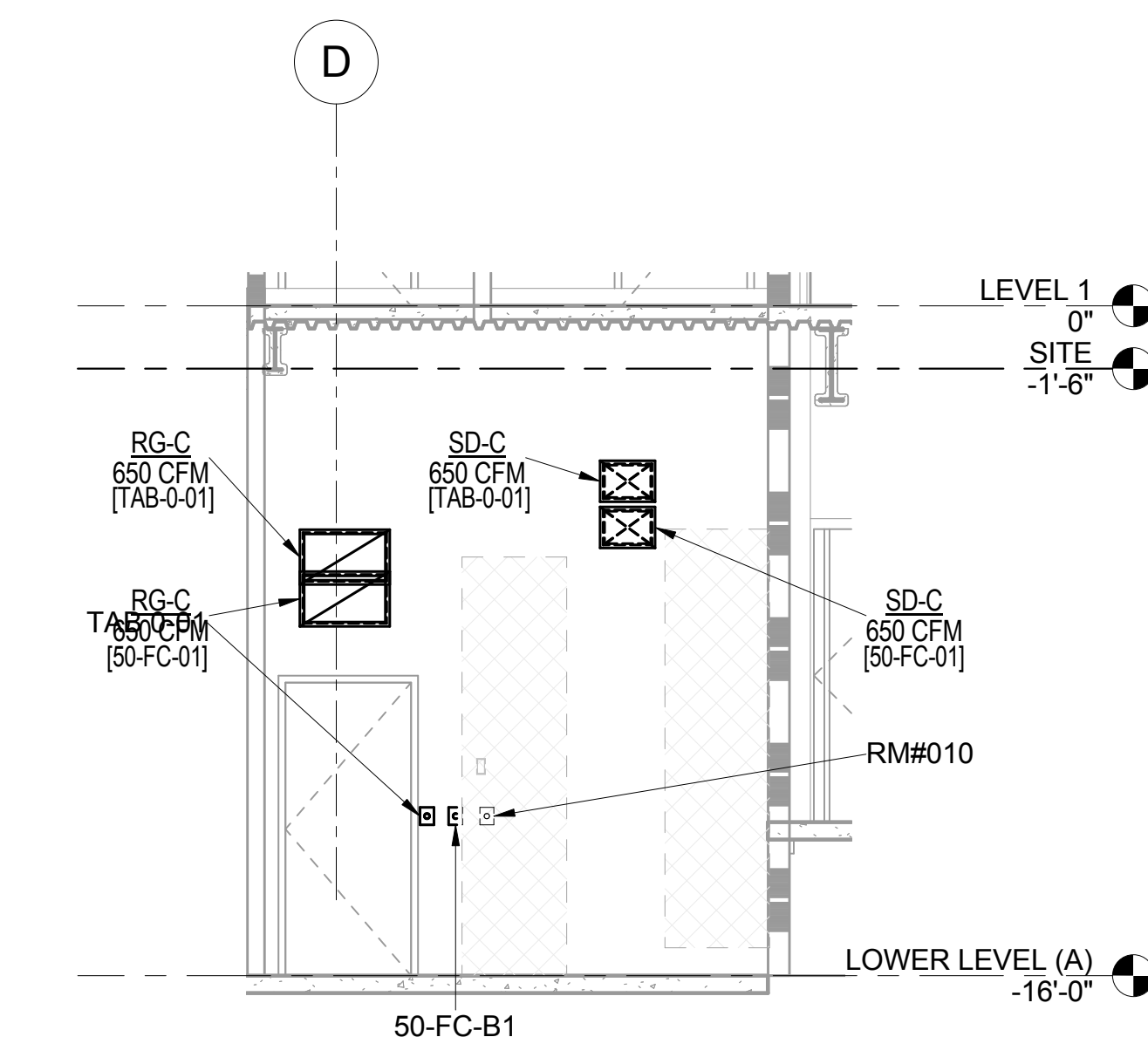
2 MECHANICAL COORDINATION PLAN LOWER LEVEL
NOT TO SCALE

GENERAL NOTES:

1. INSTALL AIRFLOW MEASURING STATIONS WITH AIRFLOW STRAIGHTENERS.
2. PROVIDE FULL LENGTH SPLITTER VANES PER ELBOW EVENLY SPACED. PROVIDE SINGLE THICKNESS LONG SWEEP TURNING VANES IN ALL SQUARE ELBOWS.
3. COORDINATE EXACT PLACEMENT OF DUCT SMOKE DETECTORS WITH FIRE ALARM CONTRACTOR AND DIVISION 28.

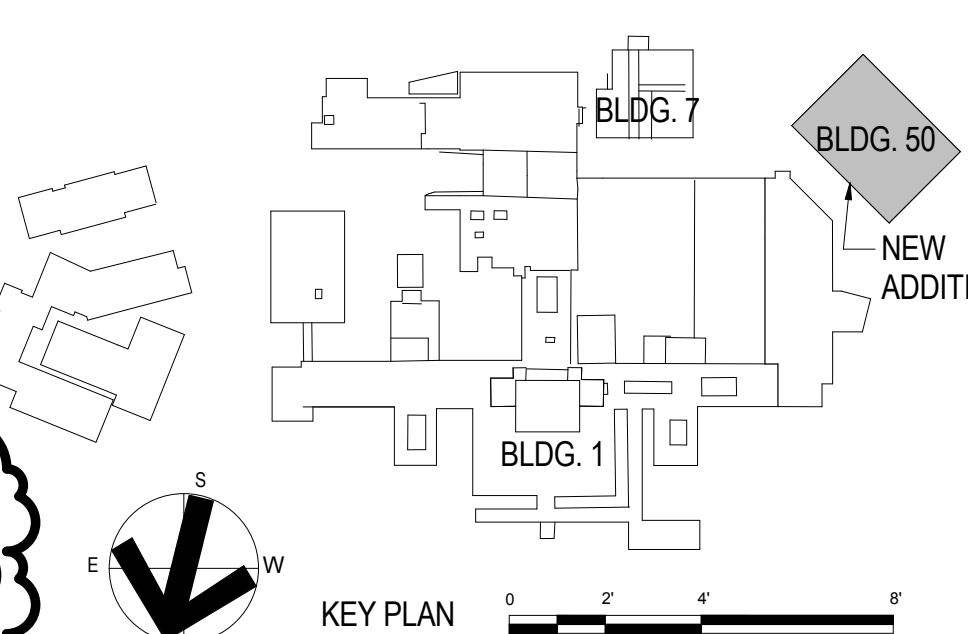
KEYED NOTES 50-M4

1. ERV PLENUM DUCT TO MATCH SIZE OF ERV AND CONNECTED DUCT. FOUR PLENUMS PER ERV.
2. STACK THREE (3) DUCTS: (1) 52X30 EA (RELIEF), (2) 52X14 EA (ERV), (3) 28X30 EA (BUILDING).
3. PROVIDE AUTOMATIC CONTROL DAMPER (N.C.) ON EXHAUST AIR BYPASS IN VERTICAL. TAP 28X30 EA DUCT TO BOTTOM OF 52X14 EA DUCT.
4. PROVIDE 6" OPEN END HORIZONTAL DISCHARGE SA DUCT WITH BALANCING DAMPER. BALANCE TO 200 CFM.
5. PROVIDE 8" OPEN END HORIZONTAL DISCHARGE SA DUCT WITH BALANCING DAMPER. BALANCE TO 250 CFM.
6. PROVIDE 12" OPEN END HORIZONTAL DISCHARGE SA DUCT WITH BALANCING DAMPER. BALANCE TO 500 CFM.
7. PROVIDE OPEN END DUCT WITH BALANCING DAMPER. BALANCE TO 3,500 CFM.
8. AIR HANDLING UNIT ON CONCRETE HOUSEKEEPING PAD. REFER TO SHEET 50-M12 FOR UNIT CONFIGURATION. PROVIDE ADEQUATE CLEARANCE FOR ROUTINE SERVICE OF UNIT'S SECTIONS.
9. RETURN, RELIEF, OUTSIDE, OR SUPPLY SIZE OF UNIT CONNECTION, FULL SIZE OF UNIT CONNECTION WITH DAMPER CONTROL.
10. TEMPERATURE CONTROL PANEL.
11. TEMPERATURE CONTROL POWER SUPPLIES (2).



A SECTION @ ROOM 010
1/4" = 1'-0"

ENTIRE SHEET REVISED



1	AMENDMENT 1	04/25/16
2	AMENDMENT 2	04/27/16
3		
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CONSULTANTS:

ARCHITECT/ENGINEERS:

HEERY design
Heery International Inc.
125 South Dubuque Street,
Suite 500,
Iowa City, IA 52240-4003
319.354.4700

project number
HII-1125509

Drawing Title
MECHANICAL HVAC PLAN LOWER LEVEL

CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT SPECIALTY CLINICS ADDITION

Location
ICVA HEALTH CARE SYSTEM

Date
09/25/2015

Checked
PAB

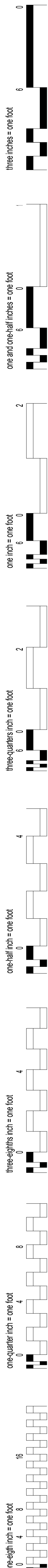
Drawn
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Building No.
BLDG 50
Project No.
VA# 636-315

DRAWING NO.
50-M4
Dwg. 106 of 162

Office of
Construction
and Facilities
Management

VA U.S. Department
of Veterans Affairs



A SOUTH
1/4" = 1'-0"



C SECTION M4 VERT
NOT TO SCALE

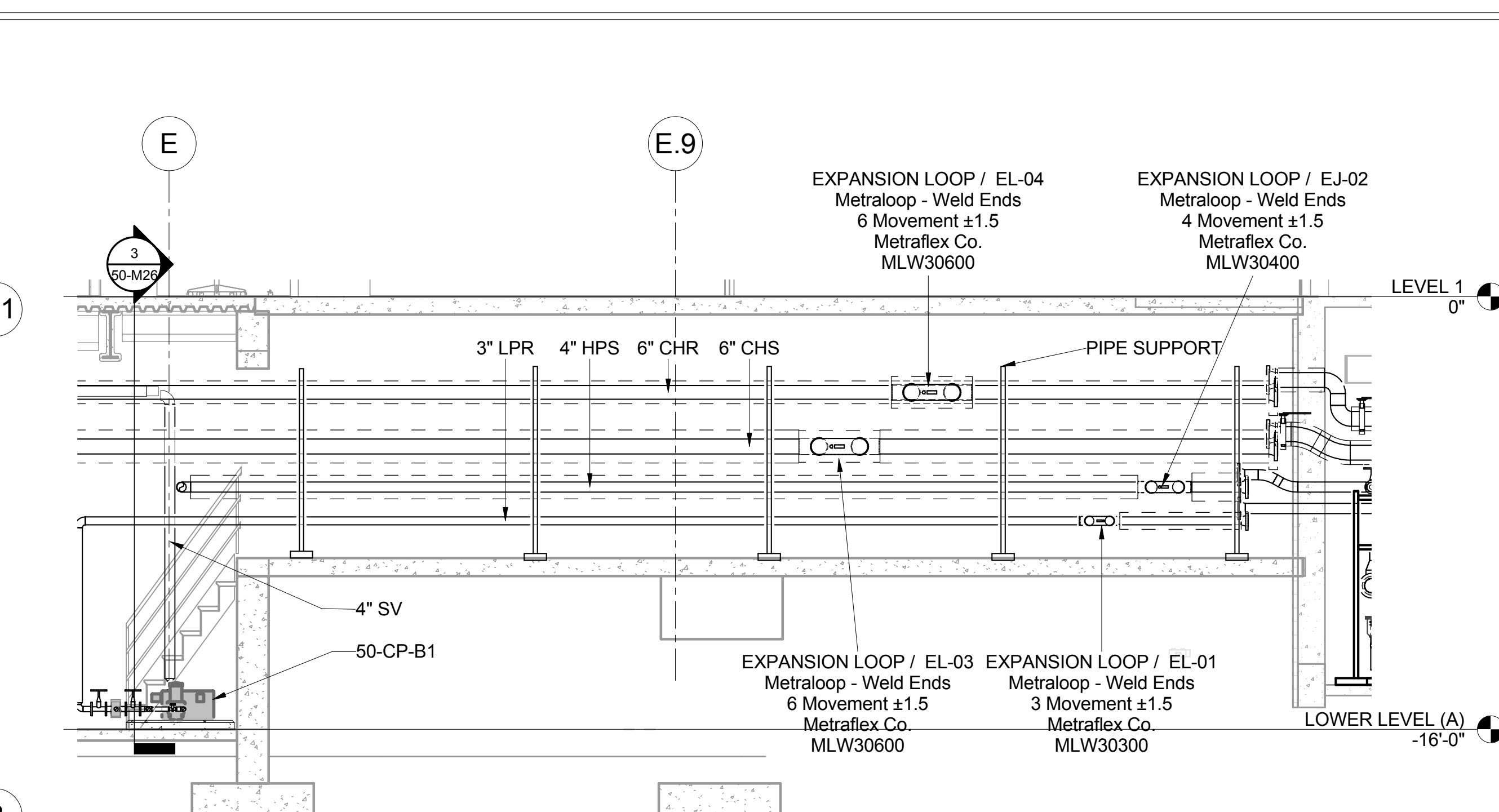
1 MECHA
1/8" = 1'-0"

CONSULTANTS:

HEERY design

project number
HII-1125509

VA U.S. Department
of Veterans Affairs



3 MECHANICAL PIPING PLAN LOWER LEVEL
1/4" = 1'-0"

-
- KEY PLAN
- 0 2' 4' 8'
- SCALE: 1/4" = 1'-0"

VA U.S. Department
of Veterans Affairs

three inches = one foot
one and one-half inches = one foot
one inch = one foot
three-quarters inch = one foot
one-half inch = one foot
three-eighths inch = one foot
one-quarter inch = one foot
one-eighth inch = one foot

ENERGY RECOVERY VENTILATOR (FIXED PLATE HX)												
TAG	SYSTEM	LOCATION	PRIMARY AIR		EXHAUST AIR		FILTER MERV	EFFECTIVENESS			BASIS OF DESIGN MANUFACTURER AND MODEL OR TYPE	NOTES
			MAX. (IN. WG)	INTERNAL STATIC MAX. (IN. WG)	MAX. (CFM)	INTERNAL STATIC MAX. (IN. WG)		SENSIBLE (%)	WINTER (%)	SUMMER (%)		
50-ERV-B1	AH50-B1	MECHANICAL ROOM / 011	6,500	0.90	6,500	0.90	8	82	77	65	RENEWAIRE PA12X	1,2,3,4,5,6

- NOTES:
1. MINIMUM EFFECTIVENESS 60%.
 2. EQUIPMENT SELECTIONS BASED ON 750 FT ELEVATION.
 3. PULL-PULL BLOWER ORIENTATION FOR SUPPLY AND EXHAUST AIR.
 4. STACK AND MANIFOLD DUCT CONNECTIONS. PROVIDE DUCT-PLENUM MOUNTED ACCESS PANELS FOR FILTER ACCESS.
 5. PROVIDE REQUIRED SERVICE CLEARANCE.
 6. INSTALL ON 6 INCH HOUSEKEEPING PAD.

SCHEDULE - MECHANICAL HOUSEKEEPING PAD						
TAG	EQUIPMENT INFORMATION			PAD DIMENSIONS		
	EQUIP. SERVED	WIDTH	LENGTH	THICKNESS	WIDTH	LENGTH
LOWER LEVEL (A)						
PAD-011-B01	AH50-B1	8'-0"	50'-3"	6"	9'-0"	51'-3"
PAD-011-B02	ERV-B1	9'-3"	12'-0"	4"	10'-3"	13'-0"
PAD-011-B03	50-F-B1	2'-8"	2'-8"	4"	3'-8"	3'-8"
PAD-011-B04	HEATING SYSTEM	3'-0"	6'-0"	6"	4'-0"	7'-0"
PAD-011-B05	DOMESTIC WATER HEATERS	3'-0"	6'-0"	6"	4'-0"	7'-0"
PAD-011-B06	50-CP-B2	2'-0"	2'-0"	4"	3'-0"	3'-0"
PAD-011-B07	50-CP-B1	3'-0"	3'-0"	4"	4'-0"	4'-0"
PAD-011-B08	50-FC-B1	2'-4"	4'-2"	4"	3'-4"	5'-2"
PAD-011-B09	50-FC-B2	4'-0"	4'-9"	4"	5'-0"	5'-9"
PAD-011-B10	50-FC-B3	4'-0"	4'-6"	4"	5'-0"	5'-6"
PAD-011-B11	50-FC-B4	4'-0"	4'-6"	4"	5'-0"	5'-6"
PAD-011-B12	50-HWP-B1 & 50-HWP-B2	5'-0"	5'-0"	6"	6'-0"	6'-0"

SCHEDULE - MECHANICAL VFD								
MARK	ELECTRICAL DATA			UNIT DIMENSIONS				
	HP	VOLTAGE	AMERAGE	DEPTH	WIDTH	HIEGHT	WEIGHT	MOUNTING HEIGHT
VFD-50-RF-B1	20.0 hp	380 - 480 V	31 A	1'-3"	1'-8"	3'-2"	120 lb	3'-0"
VFD-50-SF-B1	50.0 hp	380 - 480 V	72 A	1'-7"	1'-8"	3'-2"	138 lb	3'-0"
VFD-50-HWP-B1	7.5 hp	380 - 480 V	12 A	10"	5"	3'-4"	33 lb	3'-4"
VFD-50-HWP-B2	7.5 hp	380 - 480 V	12 A	10"	5"	3'-4"	33 lb	3'-4"
VFD-50-F-B1	10.0 hp	380 - 480 V	15 A	10"	5"	3'-8"	40 lb	3'-7"
VFD-50-F-R1	7.5 hp	380 - 480 V	12 A	10"	5"	3'-4"	33 lb	3'-4"

INTAKE/EXHAUST HOOD SCHEDULE													
MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE	APPLICATION	THROAT SIZE		AIR FLOW		APD		DAMPER TYPE	MANUFACTURER MODEL	REMARKS
					IN	[mm]	CFM	[L/s]	IN	[Pa]			
50-RH-R1	ROOF	1-AHU1	RELIEF	DUCTED	60 x 36	[1500 x 900]	19500	[9200]	0.26	[65]	BACKDRAFT	GREENHECK WRH	1,2,3,4,6,7,8,9
50-RH-R2	ROOF	HOISTWAY VENT	RELIEF	GRAVITY	24" DIA	[610]	-	-	-	-	MOTORIZE N.C.	GREENHECK GRSR	1,2,3,4,5,6,7,8,9
								[]		[]			
NOTES:													
1. REFERENCE SPECIFICATION SECTION "LOUVERS AND VENTS - 08 90 00". PROVIDED BY MECHANICAL CONTRACTOR.													
2. COORDINATE WITH ARCHITECT FOR COLOR APPROVAL. DARK BRONZE TO MATCH EXTERIOR DESIGN.													
3. ALUMINUM CONSTRUCTION WITH BAKED ENAMEL FINISH.													
4. PROVIDE WITH MOTORIZED LOW LEAKAGE CONTROL DAMPER.													
5. DAMPER ACTUATORS TO BE 120-VOLT, 2-POSITION, SPRING RETURN, AND SUPPLIED WITH DAMPERS.													
6. BIRDSCREEN AT INTERIOR SIDE OF DAMPER.													
7. ROOF MOUNTED HOODED GRAVITY VENTILATOR WITH INSECT SCREEN.													
8. HIGH WIND RATED.													

LOUVER SCHEDULE										
TAG	SERVICE	CFM	SIZE W x H (IN)	BASE HEIGHT (IN)	MAX. PD (IN. WG)	FREE AREA (FT^2)	FREE AREA VELOCITY (FPM)	RATED FOR AMCA 540, TAS 201, 202, 203	BASIS OF DESIGN MANUFACTURER MODEL NUMBER	NOTES
L-1A	INTAKE	7,000	96 X 72 62 X 72	-	0.03	24.7 15.6	- 450	YES	GREENHECK ESD-635	1,2,3,4,5,6,7
L-1B	INTAKE	3,900	96X48 62X36	-	0.03	19.1 8.6	- 450	YES	GREENHECK ESD-635	1,2,3,4,5,6,7
L-1C	BLANKED OFF SECTION	-	96X48	-	-	19.1	-	YES	GREENHECK ESD-635	1,3,4,5,6
L-2A	INTAKE	7000	96 X 72 62 X 72	0	0.03	24.7 15.6	- 450	YES	GREENHECK ESD-635	1,2,3,4,5,6,7
L-2B	INTAKE	3900	96X48 62X36	0	0.03	19.1 8.6	- 450	YES	GREENHECK ESD-635	1,2,3,4,5,6,7

- NOTES:
1. THESE LOUVERS (L-1A, 1B, 1C, 2A & 2B) WHEN COMBINED FORM A SINGLE 96X288 LOUVER, SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
 2. FIRST DIMENSION SHOWN IS THE OVERALL LOUVER SIZE, WHILE THE SECOND DIMENSION IS FOR THE ACTIVE SECTION OF THE LOUVER.
 3. REFERENCE SPECIFICATION SECTION "LOUVERS AND VENTS - 08 90 00". PROVIDED BY MECHANICAL CONTRACTOR.
 4. COORDINATE WITH ARCHITECT FOR COLOR APPROVAL. DARK BRONZE TO MATCH EXTERIOR DESIGN.
 5. HIGH WIND RATED.
 6. ALUMINUM CONSTRUCTION WITH BAKED ENAMEL FINISH.
 7. BIRDSCREEN AT INTERIOR SIDE OF LOUVER.

HOISTWAY VENT DAMPER SCHEDULE						
MARK	ELEVATOR	LOCATION	HOISTWAY IDENTIFICATION	WIDTH		REMARKS
				IN	[mm]	
50-HVD1	#1 & #2	PENTHOUSE	50-EV1	24	[600]	ROOF VENT MAYBE PROVIDED WITH RELIEF HOOD

CONSULTANTS:

ARCHITECT/ENGINEERS:

HEERY design
Heery International Inc.
125 South Dubuque Street,
Suite 500,
Iowa City, IA 52240-4003
319.354.4700

project number
HII-1125509

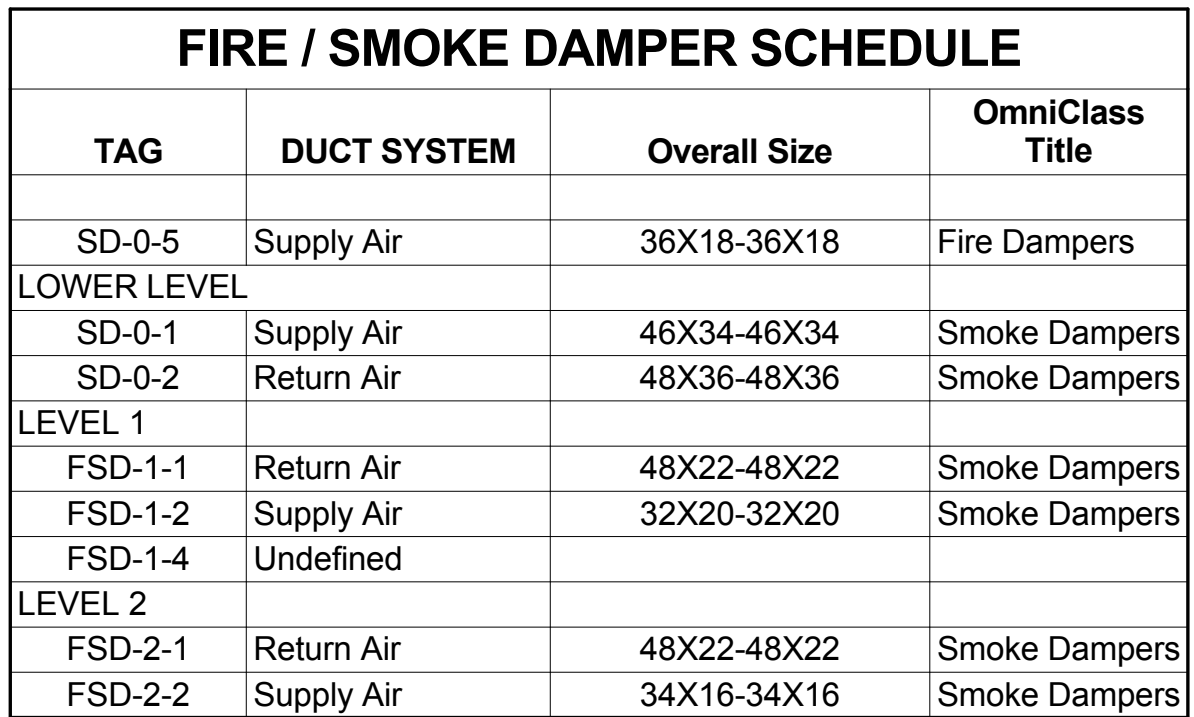
Drawing Title	Project Title			Building No.	Office of Construction and Facilities Management
MECHANICAL EQUIPMENT SCHEDULES	CONSTRUCT SPECIALTY CLINICS ADDITION			BLDG 50	
				Project No.	
			VA# 636-315		
CONSTRUCTION DOCUMENTS			DRAWING NO.		
ICVA HEALTH CARE SYSTEM			50-M13		
FULLY SPRINKLERED	Date	Checked	Drawn	Dwg. 116 of 162	VA U.S. Department of Veterans Affairs
	09/25/2015	PAB	HRO		

AIR HANDLING UNIT SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	TYPE	AIR FLOW	AIR FLOW								SUPPLY FAN MARK	RETURN OR RELIEF FAN MARK	EXHAUST FAN MARK	PREFILTER MARK	AFTER FILTER MARK	FINAL FILTER MARK	HEAT RECOVERY MARK	PREHEAT COIL MARK	COOLING COIL MARK	REHEAT COIL	HUMIDIFIER MARK	MANUFACTURER	MODEL NO	REMARKS
					SUPPLY		MIN SA		MIN OA		RETURN															
					CFM	[L/s]	CFM	[L/s]	CFM	[L/s]	CFM	[L/s]														
AH50-B1	MECHANICAL 011	LOWER LEVER AND LEVELS 1 & 2	MODULAR	VAV	27000	[13000]	14700	[6900]	8500	[4700]	17000	[8000]	50-SF-B1A, B1B, B1C, B1D	50-RF-B1A, B1B, B1C, B1D	50-EF-R1	50-PF-B1	50-AF-B1	-	50-ERV-B1	50-HC-B1	50-CC-B1	AT TU	50-SHC-B1	TRANE PERFORMANCE CLIMATE CHANGER	PCCL-50 TALL	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
NOTES: REFERENCE 2/50-M13 FOR UNIT DETAIL.																										
1. MECHANICAL CONTRACTOR TO FIELD INSTALL UV LIGHTS AT COOLING COIL DISCHARGE.																										
2. VARIABLE FREQUENCY DRIVES FOR FANS PROVIDED BY CONTROLS CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.																										
3. HUMIDIFIER DISPERSION TUBE SECTION FIELD INSTALLED BY MECHANICAL CONTRACTOR.																										
4. PROVIDE WITH ECONOMIZER DAMPERS AND AIR BLENDER SECTION.																										
5. EQUIPMENT SELECTIONS BASED ON 750 FT ELEVATION.																										
6. ALL AUTOMATIC CONTROL DEVICES, AIR FLOW MEASURING STATIONS, AND ACTUATORS PROVIDED AND INSTALLED BY CONTROLS CONTRACTOR. REFERENCE SPEC 23-0923.																										
7. DAMPERS PROVIDED BY AIR HANDLER MANUFACTURER.																										
8. SUPPLY AIRFLOW MEASURING STATION TO BE FAN INLET TYPE. FAN INLET AIRFLOW TRAVERSE PROBE, FACE MOUNTED, CALIBRATED TO EXACT INSTALLED FAN.																										
9. INSTALL AIR HANDLER ON 6 INCH HOUSEKEEPING PAD.																										
10. PROVIDE SEPARATE 120 VOLT 15 AMP CIRCUIT FOR INTERNAL LIGHTSWITH TIMER. PROVIDE SEPARATE 120 VOLT 15 AMP CIRCUIT FOR UV LIGHT SYSTEM. PROVIDE SEPARATE 120 VOLT 15 AMP CIRCUIT FOR SERVICE RECEPTACLE.																										
11. ALL INTERNAL WIRING TO BE INSTALLED IN CONDUIT OR FLEXIBLE CONDUIT TO PREVENT UV DEGRADATION.																										
12. ROTATE SUPPLY FAN ORIENTATION TO PREVENT AIRFLOW SYSTEM AFFECTS WITH CONNECTED DUCT.																										

STEAM HEATING COIL SCHEDULE (STEAM - IFB)

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	APPLICATION	AIR FLOW		QTY. OF COILS IN BANK	MIN ROWS	MAX. FINS PER INCH	MAX FACE VELOCITY (5)		SIZE DATA				MAX. APD (5)		TEMPERATURES				TOTAL MIN CAPACITY		STEAM				BASIS OF DESIGN COIL TYPE	REMARKS						
					CFM	[L/s]				FACE AREA (SF)	TUBE LEN (IN)	TUBE WID (IN)	FIN HGT (IN)	TUBE WALL (IN)	EAT		LAT		MBH	[kW]	ENT CONT VALVE		ENT COIL		FLOW		STEAM TRAP								
															IN WG	[Pa]	°F	[°C]			°F	[°C]	PSIG	[kPa]	PSIG	[kPa]	LBS/HR			[kg/HR]	MARK		LBS/HR	[kg/HR]	
50-HC-B1	MECH ROOM / 011	LOWER LEVEL 1 & 2	AH50-B1	PREHEAT	16000	[7600]	1	1	12	808	[2.54]	2912.8	-	-	-	0.035	0.3	[.75]	19.3	[-.7]	55	[13]	740.3	[2500]	15	[100]	5	[35]	790	[360]	SEE STEAM TRAP SCHEDULE	1980	[900]	INTEGRAL FACE & BYPASS	1, 2, 3, 4
						[]											[]						[]		[]		[]								
NOTES												4 STAINLESS STEEL DRAIN PAN. 5 AT 26,000 CFM COOLING AIRFLOW																							
1 EQUIPMENT SELECTIONS BASED ON 750 FT ELEVATION, AND FLUID TYPE: STEAM. 2 MANUFACTURER: L J WING. 3 CONTROL VALVE ACTUATOR SHALL BE PROVIDED BY MANUFACTURER.																																			



NOTES

1. UTILIZE A INSERTION CONDENSATE MIXER TO CONNECT THE DISCHARGE FROM STEAM TRAP TO LOW-PRESSURE CONDENSATE RETURN (LPC) LINE.
2. STEAM TRAP SHALL BE PIPED PER 3/50-M19. PROVIDE LINE SIZE UNIONS, BALL VALVES, AND CHECK VALVES TO MATCH LINE SIZES.
3. STEAM TRAP SHALL BE PIPED PER 3/50-M19. PROVIDE LINE SIZE UNIONS, BALL VALVES, AND CHECK VALVES TO MATCH LINE SIZES.
4. STEAM TRAP TRAP SHALL BE PIPED PER 6/50-M19. PROVIDE LINE SIZE UNIONS, BALL VALVES, AND CHECK VALVES TO MATCH LINE SIZES.
5. AUTOMATIC PUMP TRAP SHALL BE PIPED PER 10/50-M17. PROVIDE UNIONS, BALL VALVES, CHECK VALVES, AND AIR VENTS TO MATCH TRAP LINE SIZES. PROVIDE 100PSI MOTIVE STEAM.

BUILDING - STEAM PRESSURE REDUCING VALVE SCHEDULE																			
TAG	FINAL LABEL	LOCATION	SYSTEM AND/OR SERVICE	QUANTITY	REQUIRED CAPACITY		MAX FLOW WIDE OPEN VALVE		PRESSURE				INLET PIPE SIZE		ACTUATION	MAIN BODY CONSTRUCTION	MAIN BODY CLASS	BASIS FOR DESIGN	REMARKS
					LBS/HR	[kg/min]	LBS/HR	[kg/HR]	PSIG	[kPa]	PSIG	[kPa]	IN	OUT					
50-SPRV1	50-SPRV-011-01	MECH-011	HPS	1	1800	[820]	2000	[910]	125	[880]	67	[460]	7.5	1 1/4	MECHANICAL	CAST STEEL, ASTM A216 WCB	300	SPENCE ED	NORMAL PORT
50-SPRV2	50-SPRV-011-02	MECH-011	HPS	1	3600	[1600]	3900	[1800]	125	[880]	65	[450]	14.9	1 1/2	MECHANICAL	CAST STEEL, ASTM A216 WCB	300	SPENCE ED	FULL PORT
50-SPRV3	50-SPRV-011-03	MECH-011	MPS	1	1800	[820]	2126	[970]	65	[450]	17	[120]	11.7	1 1/2	MECHANICAL	CAST STEEL, ASTM A216 WCB	300	SPENCE ED	NORMAL PORT
50-SPRV4	50-SPRV-011-04	MECH-011	MPS	1	3600	[1600]	6262	[2800]	65	[450]	15	[100]	18.3	3	MECHANICAL	CAST STEEL, ASTM A216 WCB	300	SPENCE ED	NORMAL PORT
50-SPRV5	50-SPRV-011-05	MECH-011	HPS	1	50	[23]	233	[110]	125	[880]	100	[690]	2.8	1/2	MECHANICAL	CAST STEEL, ASTM A216 WCB	300	SPENCE ED	NORMAL PORT
						[]		[]		[]		[]							

NOTES (APPLY TO ALL PRESSURE REDUCING VALVES):

1. PRV SHALL BE LESS THAN OR EQUAL TO SAFETY VALVE CAPACITY.
2. PROVIDE WITH NOISE DEFFUSER DIRECT AT THE DISCHARGE OF PRV TO REDUCE 15dBA OF SOUND.

STEAM PRESSURE RELIEF VALVE SCHEDULE																
TAG	FINAL LABEL	LOCATION	SYSTEM AND/OR SERVICE	TEMPERATURE		MINIMUM CAPACITY		SET PRESSURE		INLET PIPE SIZE, INCHES	ACTION	MAIN BODY CONSTRUCTION	MAIN BODY CLASS	CONSTRUCTION FEATURES	BASIS FOR DESIGN	REMARKS
				°F	[°C]	LB/MIN	[KG/HR]	PSIG	[KPa]							
50-SRV1	50-SRV-011-01	MECH-011	HPS PRV STATION	312	[160]	3600	[1600]	75	[520]	1 1/2	SELF CONTAINED	CAST IRON	300	1.391 SQ. IN. ORIFICE	SPENCE 41	DRIP PAN ELBOW, 2" OUTLET, 3" VTR
50-SRV2	50-SRV-011-02	MECH-011	HPS PRV STATION	312	[160]	3600	[1600]	75	[520]	1 1/2	SELF CONTAINED	CAST IRON	300	1.391 SQ. IN. ORIFICE	SPENCE 41	DRIP PAN ELBOW, 2" OUTLET, 3" VTR
50-SRV3	50-SRV-011-03	MECH-011	MPS PRV STATION	259	[130]	3600	[1600]	25	[170]	3	SELF CONTAINED	CAST IRON	250	3.715 SQ. IN. ORIFICE	SPENCE 41	DRIP PAN ELBOW, 4" OUTLET, 5" VTR
50-SRV4	50-SRV-011-04	MECH-011	MPS PRV STATION	259	[130]	3600	[1600]	25	[170]	3	SELF CONTAINED	CAST IRON	250	3.715 SQ. IN. ORIFICE	SPENCE 41	DRIP PAN ELBOW, 4" OUTLET, 5" VTR

CONDENSATE PUMP UNIT SCHEDULE																		
TAG	FINAL LABEL	LOCATION	SYSTEM	TYPE	CAPACITY COND LOAD LB/HR	CAPACITY PER PUMP (GPM)	DISCH. PRESS (PSIG)	RECEIVER DATA				MOTOR DATA				BASIS OF DESIGN MANUFACTURER	NOTES	
								SIZE (GAL)	INLET SIZE (IN)	DISCH SIZE (IN)	VENT SIZE (IN)	QTY	HP	RPM	VOLT			PH
50CP-B1	50-CP-011-1	MECH-011	PRIMARY PUMP	DUPLEX	12,900	75	50	75	2	2	2 1/2	2	5	3450	460	3	DOMESTIC PUMPS AND MODEL NUMBER 52CB7-25	1,2,3,4
50CP-B2	50-CP-011-2	MECH-011	LOCAL PUMP	DUPLEX	11,250	45	25	52	3	2 (1 1/2)	1 1/2	2	1	3450	460	3	DOMESTIC PUMPS AND MODEL NUMBER 52CB45-25	1,2,3

NOTES:

- 1. PROVIDE WITH HIGH LEVEL FLOAT SWITCH, THERMOMETER, GAUGE GLASS, DISCHARGE PRESSURE GAUGE, BASKET STRAINER, SUCTION ISOLATION VALVES.
- 2. STAINLESS STEEL RECEIVER TANK, BRONZE IMPELLER, BRONZE FITTED WITH MECHANICAL SHAFT SEALS
- 3. NEMA 1 DUPLEX PANEL WITH MAGNETIC STARTER, MAIN THRU THE DOOR DISCONNECT, CIRCUIT BREAKERS, LIGHTED SELECTOR SWITCHES TERMINAL STRIP.
- 4. CONDENSATE LOAD INCLUDES 1,600 LB/HR FOR FUTURE CAPACITY.

CONSULTANTS:

ARCHITECT/ENGINEERS:

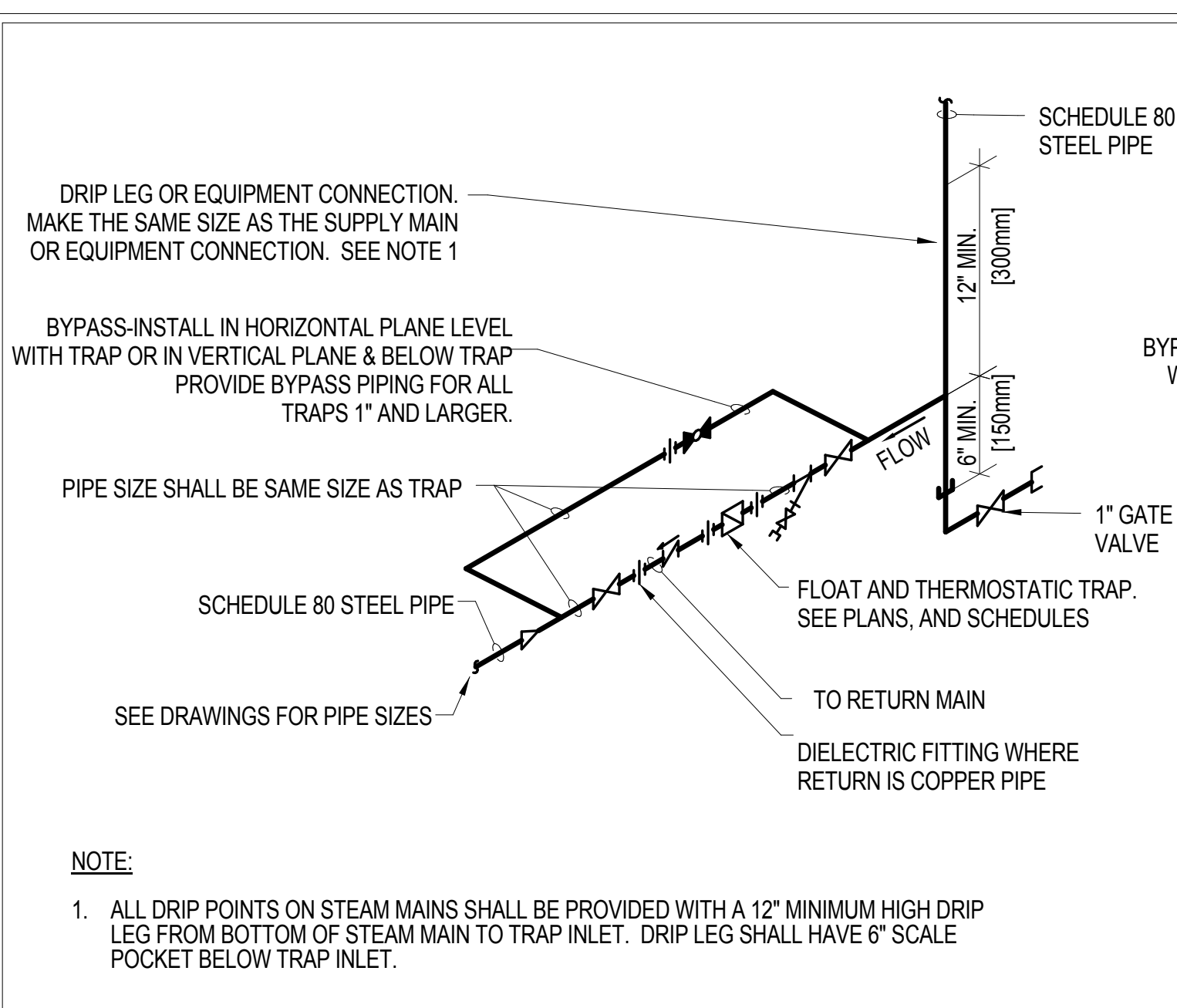
HEERY design

Heery International Inc.
125 South Dubuque Street,
Suite 500,
Iowa City, IA 52240-4003
319.354.4700

project number
HII-1125509

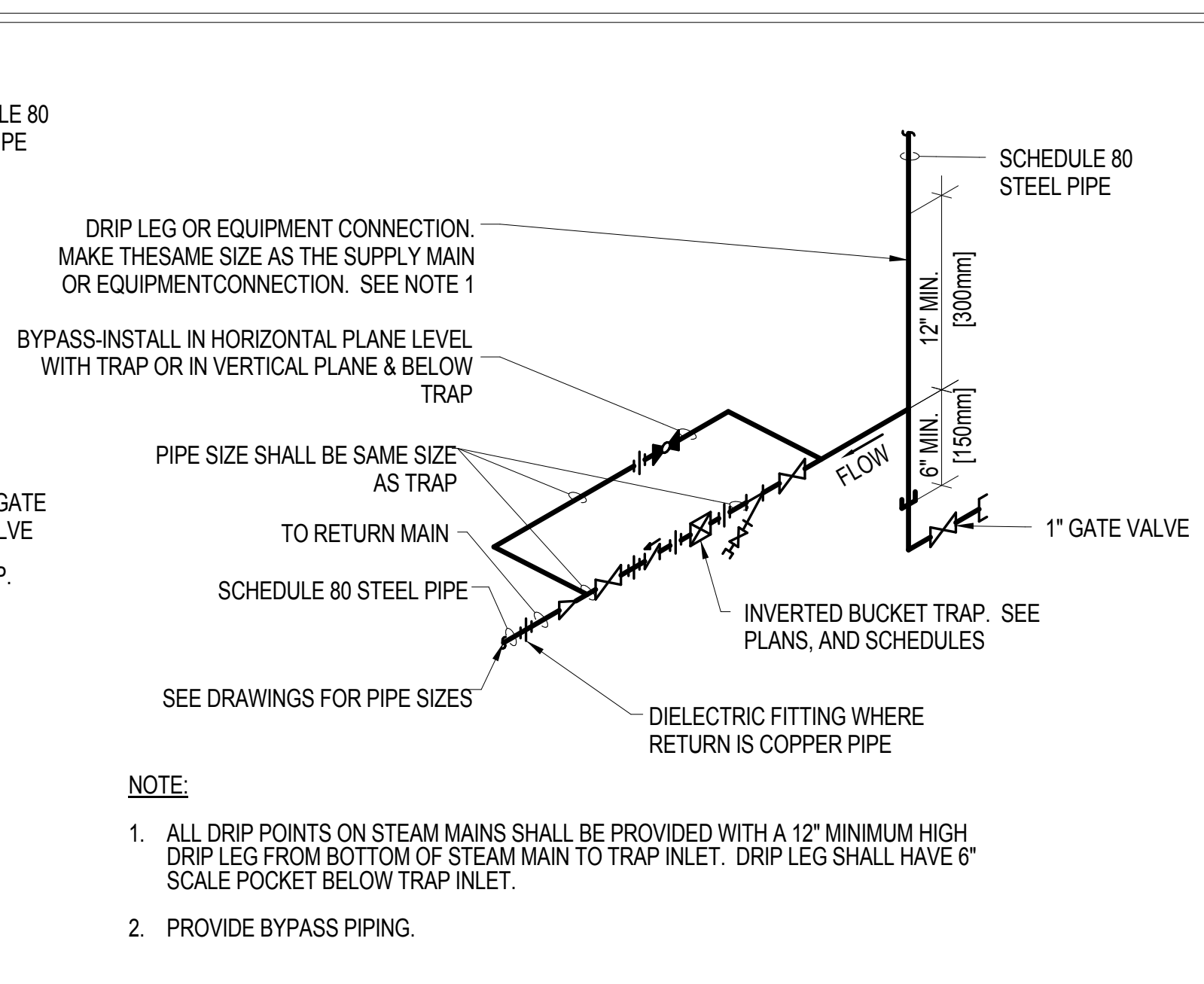
Drawing Title MECHANICAL EQUIPMENT SCHEDULES		Project Title CONSTRUCT SPECIALTY CLINICS ADDITION		Building No. BLDG 50		Office of Construction and Facilities Management
				Project No. VA# 636-315		
CONSTRUCTION DOCUMENTS		Location ICVA HEALTH CARE SYSTEM		DRAWING NO. 50-M15 Dwg. 117 of 162		
FULLY SPRINKLERED		Date 09/25/2015	Checked PAB	Drawn HRO	VA U.S. Department of Veterans Affairs	

three inches = one foot
one and one-half inches = one foot
one inch = one foot
three-quarters inch = one foot
one-half inch = one foot
three-eighths inch = one foot
one-quarter inch = one foot
one-eighth inch = one foot



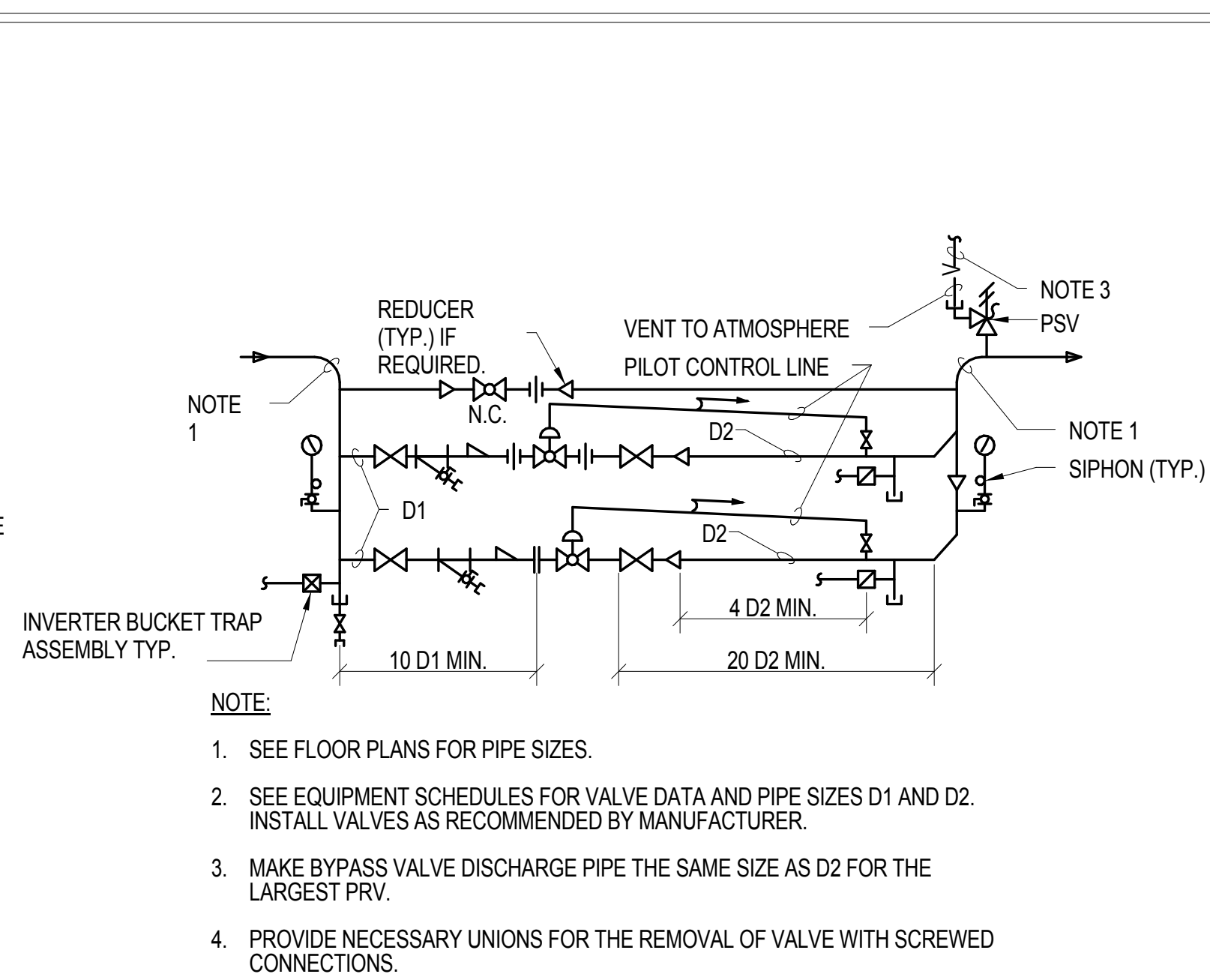
SD232213-03.DWG

5 FLOAT AND THERMOSTATIC STEAM TRAP ASSEMBLY
NOT TO SCALE



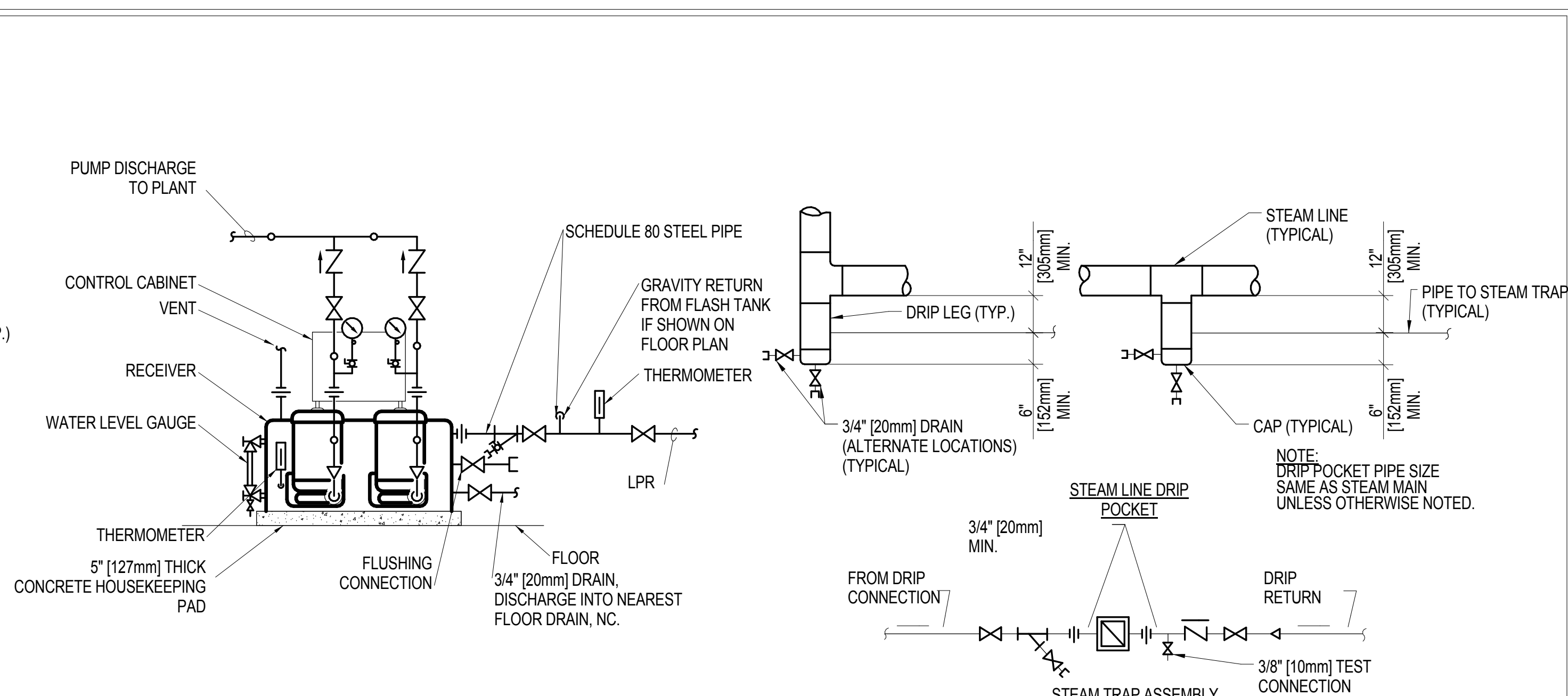
SD232213-02.DWG

4 INVERTED BUCKET STEAM TRAP ASSEMBLY
NOT TO SCALE



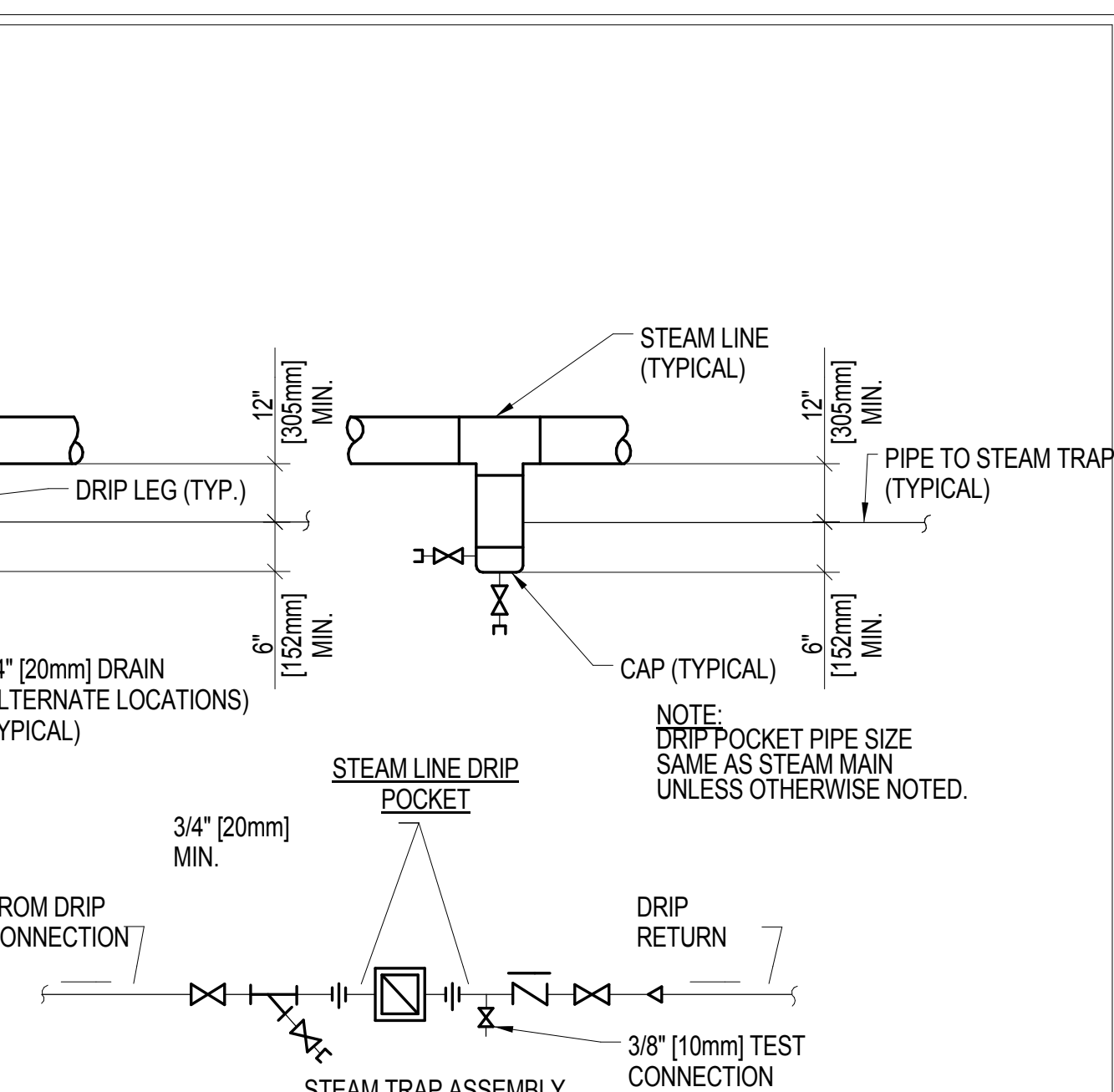
SD232213-01.DWG

3 STEAM PRESSURE REDUCING STATION DOUBLE VALVE (1/3 AND 2/3)
NOT TO SCALE



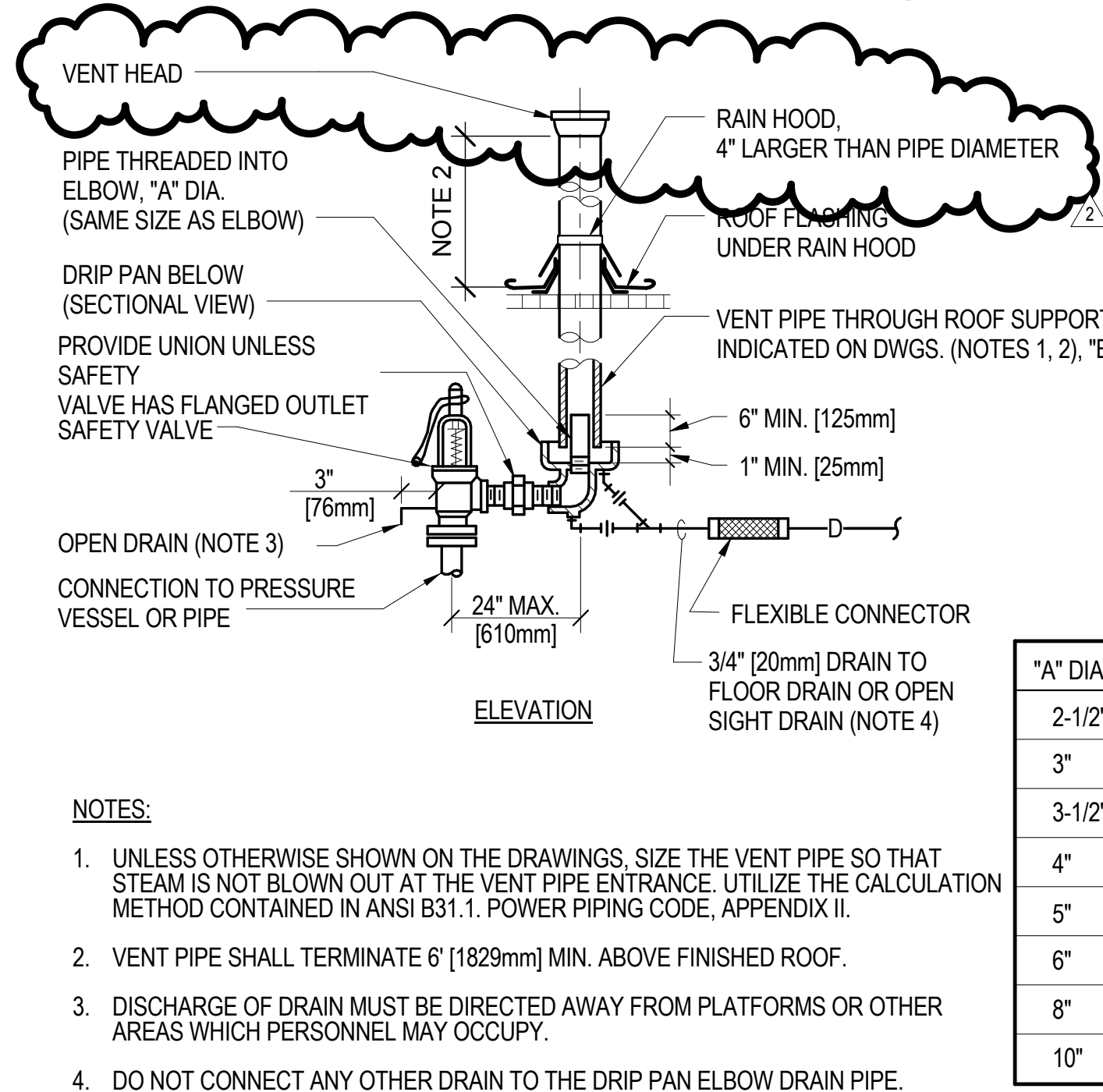
SD232123-07.DWG

2 CONDENSATE PUMPS - PIPING CONNECTIONS
NOT TO SCALE

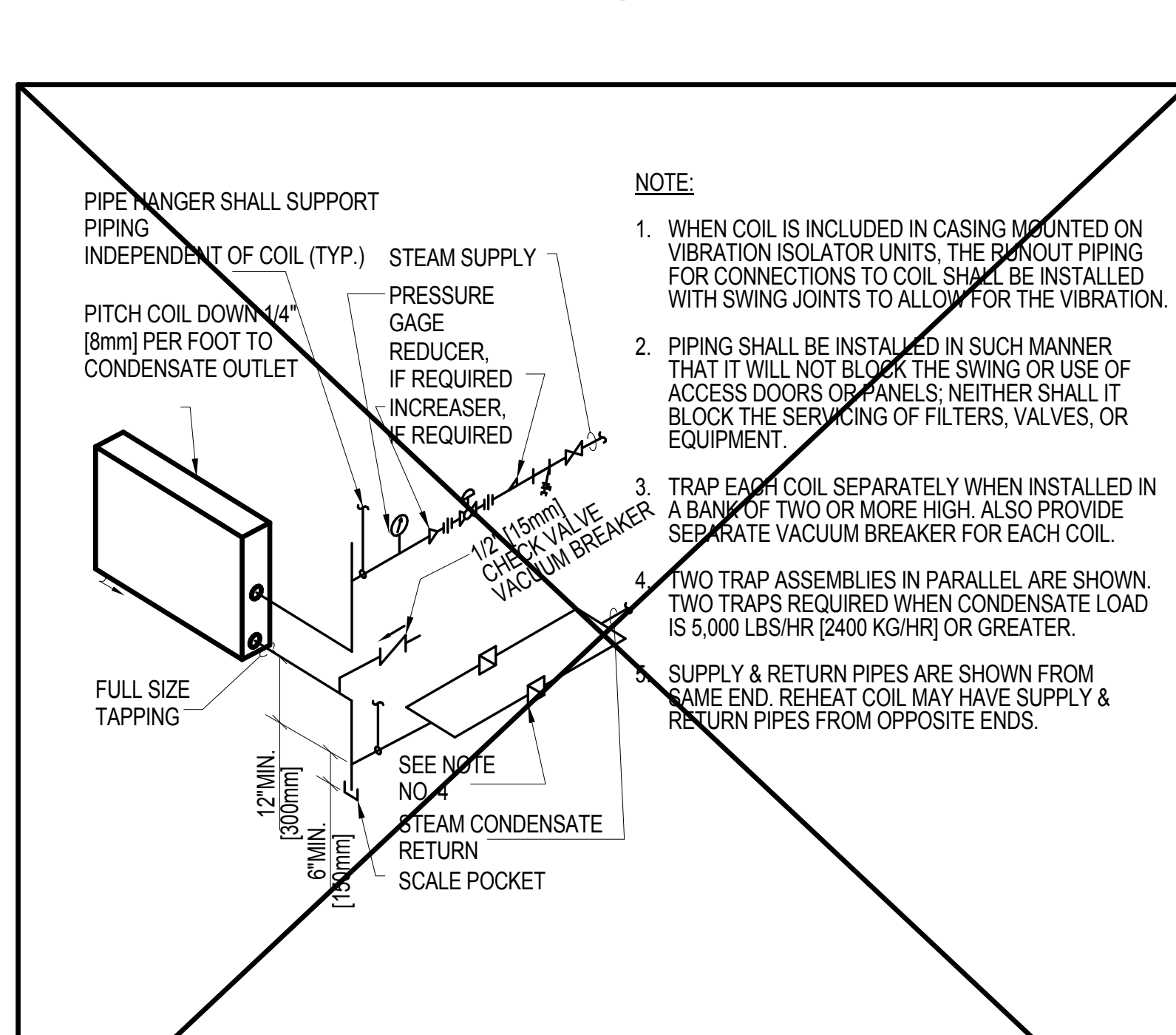


SD232111-01.DWG

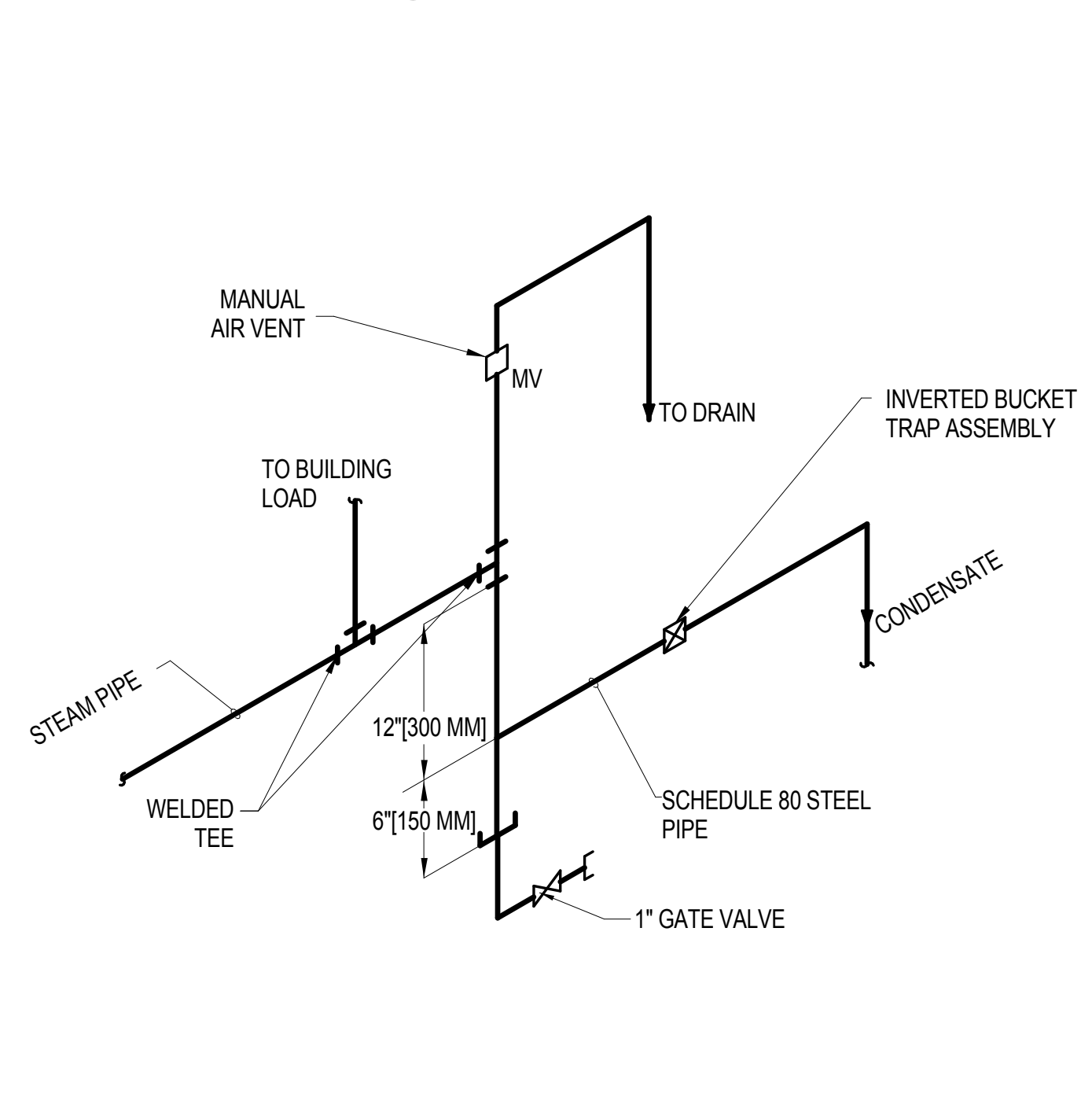
1 STEAM LINE DRIP POCKET STEAM TRAP ASSEMBLY
NOT TO SCALE



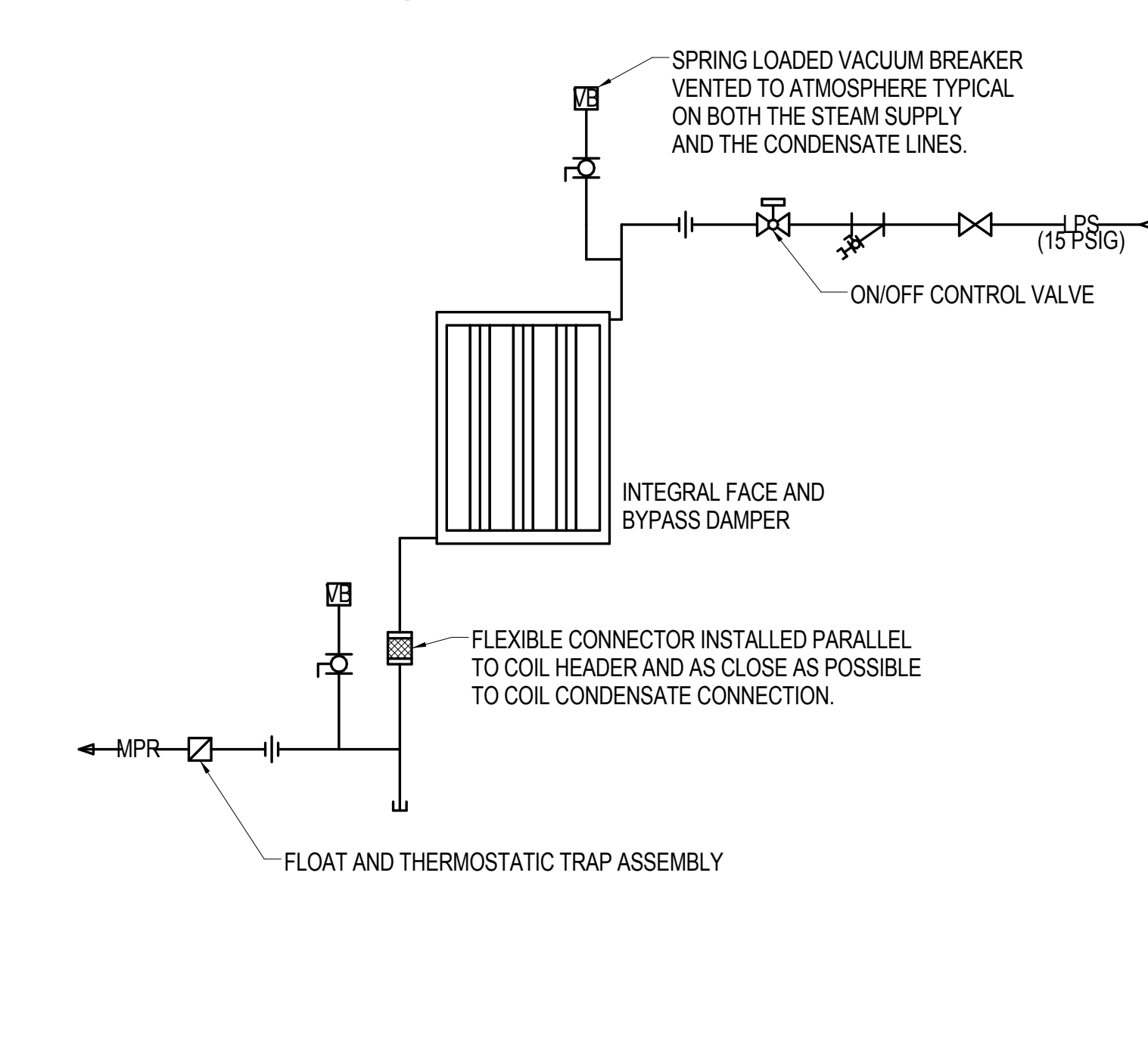
"A" DIA.	"B" DIA.
2-1/2"	3-1/2" TO 4"
3"	4"
3-1/2"	5"
4"	6"
5"	6"
6"	8"
8"	10"
10"	12"



9 STEAM COIL - PIPING CONNECTIONS
NOT TO SCALE

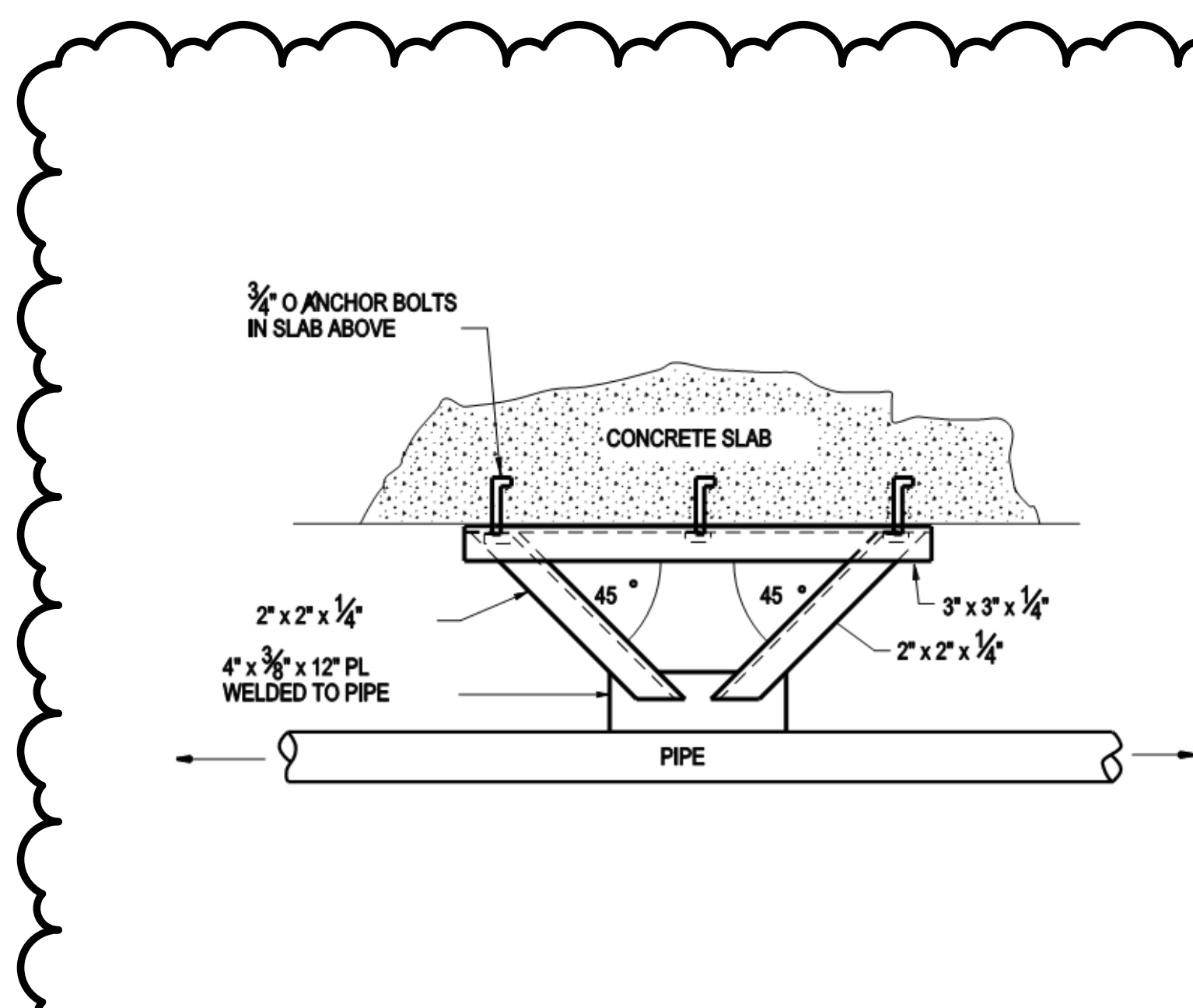


7 END OF STEAM LINE DRIP TRAP
NOT TO SCALE

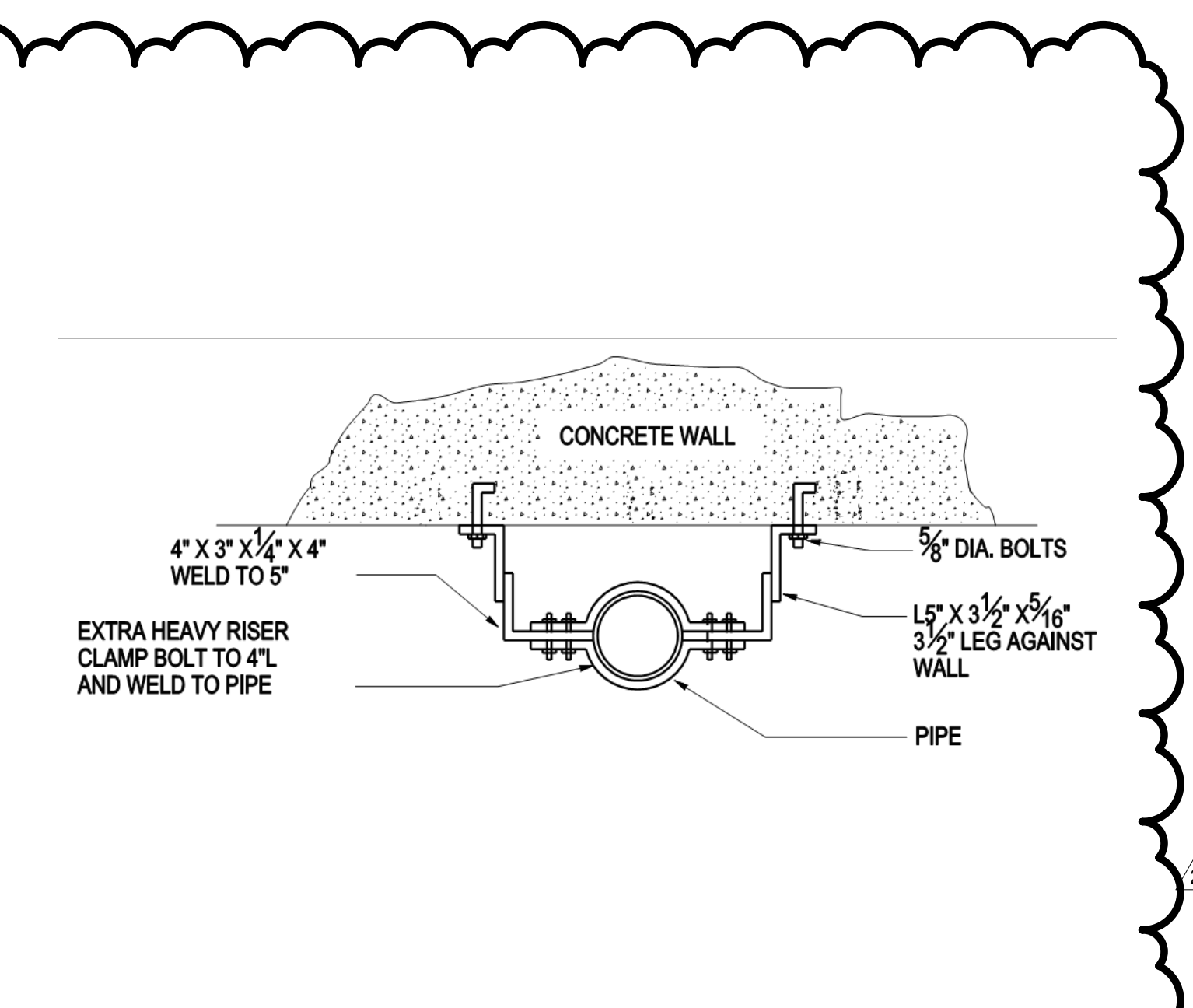


SD237300-02.DWG

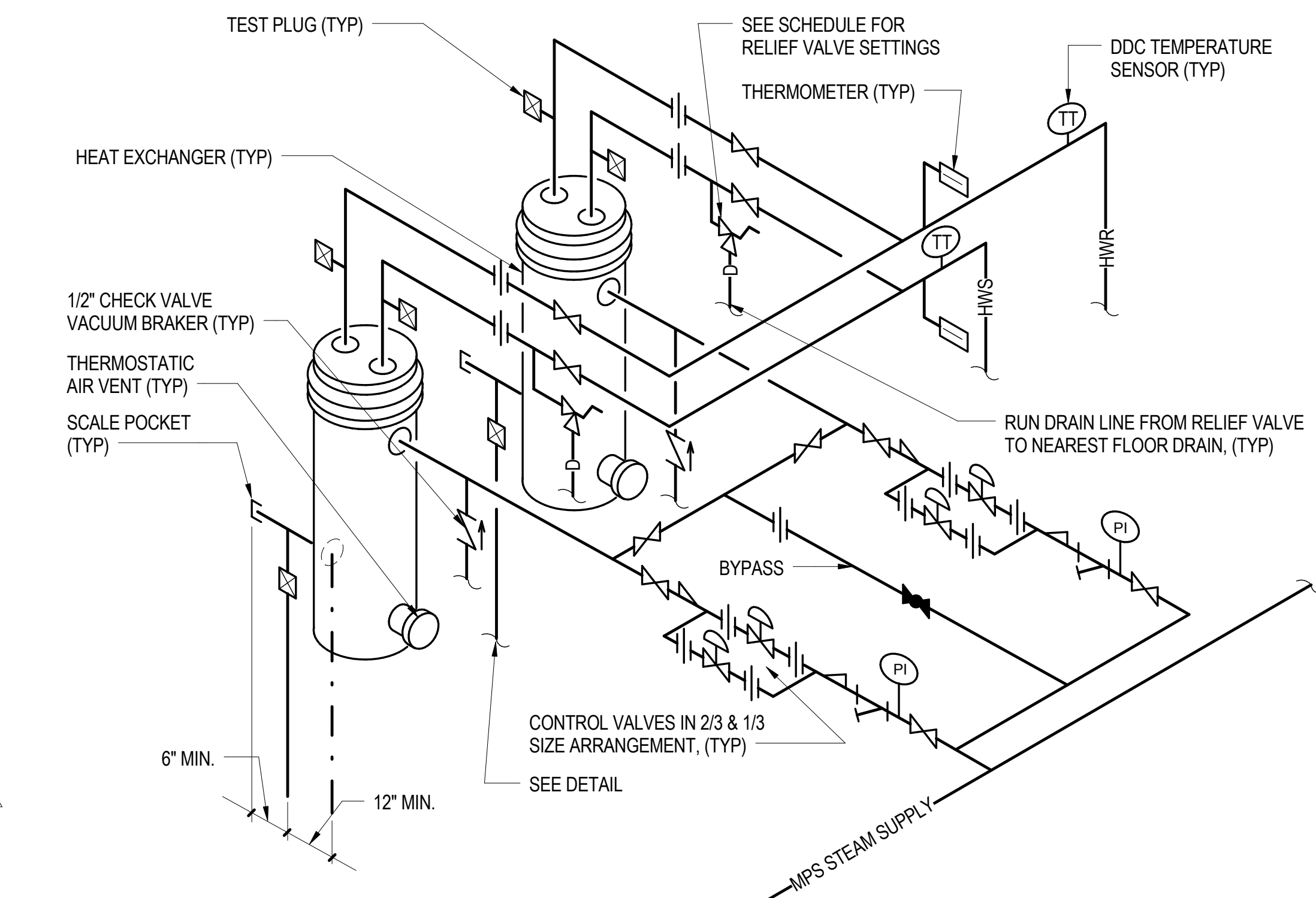
6 INTEGRAL FACE AND BYPASS STEAM COIL DETAIL
NOT TO SCALE



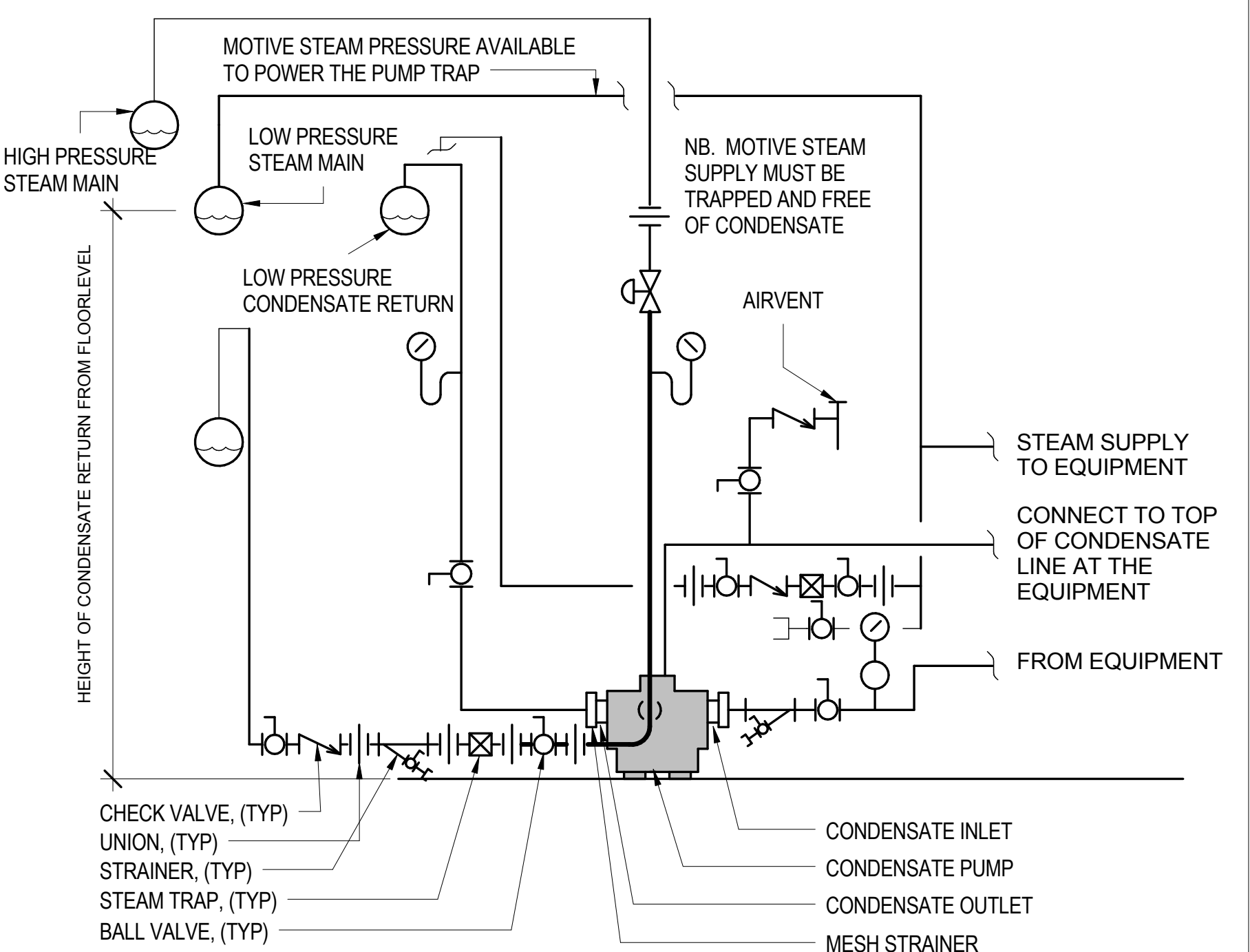
14 PIPE ANCHOR TO CONCRETE SLAB DETAIL
NOT TO SCALE



13 PIPE ANCHOR TO VERTICAL WALL
NOT TO SCALE



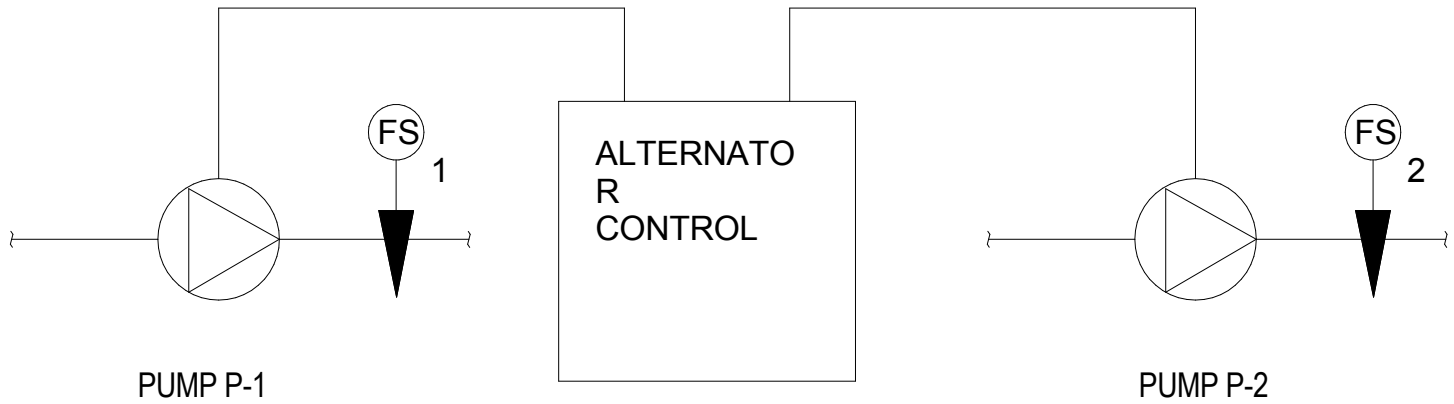
12 HEAT EXCHANGER-STEAM TO HOT WATER
NOT TO SCALE



11 AUTOMATIC PUMP TRAP
NOT TO SCALE

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2	AMENDMENT 2	04/27/16
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one-half inch = one foot
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one-quarter inch = one foot
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one-eighth inch = one foot
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8
one-eighth inch = one foot



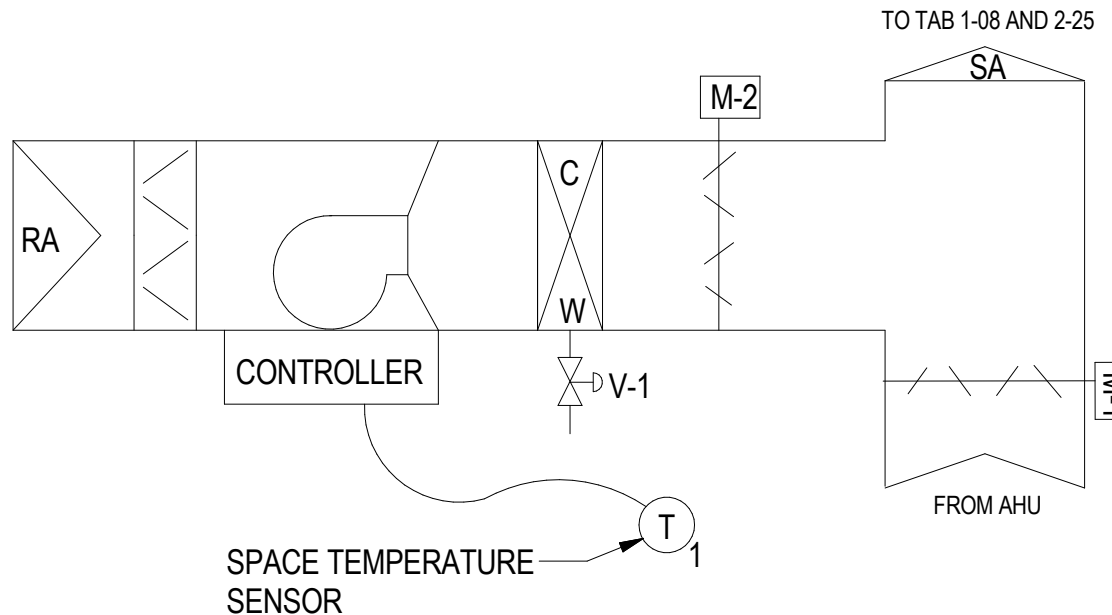
POINTS LIST

OCCUPANCY SCHEDULE:		HARDWARE				SOFTWARE			
		INPUT		OUTPUT					
NIGHT SETBACK SCHEDULE:		DIGITAL	ANALOG	DIGITAL	ANALOG	ALARMS		APPLICATION PROGRAMS	
<p>NOTES: _____</p> <p>1. ALL HARDWARE AND ALARM POINTS SHALL BE REPRESENTED ON THE GRAPHICS DISPLAY</p> <p>2. ALL APPLICATION PROGRAMS SHALL BE FULLY FUNCTIONAL USING DATA APPLICABLE TO THIS PROJECT.</p>		HAND/OFF/AUTO							
		CURRENT SENSING RELAY							
		ENTERING WATER PRESSURE							
		LEAVING WATER PRESSURE							
		START/STOP							
		STATUS							
EQUIPMENT DESCRIPTION						HIGH PRESSURE		RUN TIME RECORD	
						LOW PRESSURE		MAINTENANCE MANAGEMENT	
						FAILURE TO START		AUTOMATIC ALTERNATING SEQUENCING	

SEQUENCE OF OPERATION

1. FLOAT SWITCH TO ENGAGE THE ALTERNATOR TO START LEAD PUMP AND RUN CONTINUOUSLY UNTIL IT IS SHUT DOWN. UPON SHUTDOWN, THE LAG PUMP SHALL BE SWITCHED TO LEAD POSITION.
2. A CURRENT SENSING RELAY SHALL VERIFY PUMP OPERATION. IF FLOW IS NOT INDICATED AFTER THE RUN COMMAND, A FLOW ALARM SHALL BE INDICATED AND THE ALTERNATOR SHALL CAUSE THE LAG PUMP TO START.

STEAM CONDENSATE PUMP



POINTS LIST

OCCUPANCY SCHEDULE:		HARDWARE ①				SOFTWARE			
		INPUT		OUTPUT					
NIGHT SETBACK SCHEDULE:		DIGITAL	ANALOG	DIGITAL	ANALOG	ALARMS ①	APPLICATION PROGRAMS ②		
NOTES: ①. ALL HARDWARE AND ALARM POINTS SHALL BE REPRESENTED ON THE GRAPHICS DISPLAY ②. ALL APPLICATION PROGRAMS SHALL BE FULLY FUNCTIONAL USING DATA APPLICABLE TO THIS PROJECT.									
EQUIPMENT DESCRIPTION									
FAN COIL UNIT: 50-FC-B4	•	•							
CONTROL DAMPER: M-1, M-2				•					

SEQUENCE OF OPERATION

1. THIS SYSTEM SHALL SERVE AS BACKUP COOLING FOR LEVEL 1 AND 2 ELECTRICAL COIL, AND IT ROOMS. DAMPER M-1 SHALL BE NORMALLY OPEN AND DAMPER M-2 SHALL BE NORMALLY CLOSED. THE SCHEDULED TAB SHALL PROVIDE VENTILATION AND FIRST STAGE OF COOLING FOR THE ROOM AND SHALL MODULATE PER TYPICAL TAB SEQUENCE.
2. BACKUP COOLING MODE: WHEN AH50-B1 IS IN THE DISABLED UNOCCUPIED STATE DAMPER M-1 SHALL CLOSE, DAMPER M-2 SHALL OPEN, THE FAN COIL SHALL ENERGIZE AND THE CHILLED WATER VALVE SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SET POINT. FAN COIL SHALL CONTINUE TO OPERATE UNTIL SPACE TEMPERATURE FALLS BELOW SET POINT, AT WHICH TIME THE FAN COIL SHALL DE-ENERGIZE AND CLOSE CHILLED WATER VALVE.
3. DURING BACKUP COOLING MODE THE FAN SHALL OPERATE AT LOW SPEED TO CIRCULATE AIR WITHIN ZONE. IF ZONE SETPOINT CAN NOT BE MET AFTER 5 MINUTES THEN THE FAN SHALL MODULATE UP TO FULL SPEED UNTIL SET POINT IS MET FOR 2 MINUTES.
5. FAN COIL SHALL SHUT DOWN ON FIRE ALARM.
6. UNIT SHALL SHUT DOWN AND VALVES SHALL CLOSE UPON CONDENSATE OVERFLOW ALARM.

CHILLED WATER FAN COIL - BACKUP (WITH AH50-B1)

CONSULTANTS:

ARCHITECT/ENGINEERS:

HEERY design
Heery International Inc.
125 South Dubuque Street,
Suite 500,
Iowa City, IA 52240-4003
319.354.4700

project number
HII-1125509

Drawing Title
**SEQUENCE OF OPERATIONS
MECHANICAL SYSTEMS**

CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
**CONSTRUCT SPECIALTY
CLINICS ADDITION**

Building No.
BLDG 50
Project No.
VA# 636-315

Location
ICVA HEALTH CARE SYSTEM

Date
09/25/2015
Checked
PAB
Drawn
HRO
DRAWING NO.
50-M24
Dwg. 126 of 162

Office of
Construction
and Facilities
Management
VA U.S. Department
of Veterans Affairs

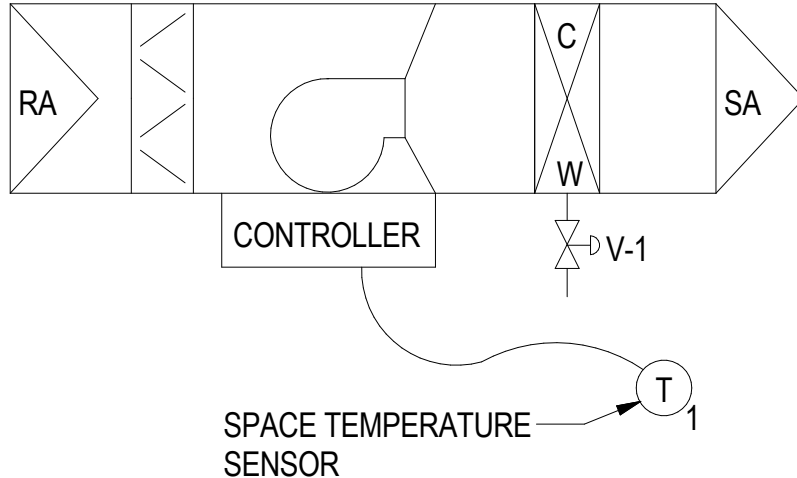
POINTS LIST

OCCUPANCY SCHEDULE:	HARDWARE ①				SOFTWARE			
	INPUT		OUTPUT					
NIGHT SETBACK SCHEDULE:	DIGITAL	ANALOG	DIGITAL	ANALOG	ALARMS ①		APPLICATION PROGRAMS ②	
NOTES: ① ALL HARDWARE AND ALARM POINTS SHALL BE REPRESENTED ON THE GRAPHICS DISPLAY ② ALL APPLICATION PROGRAMS SHALL BE FULLY FUNCTIONAL USING DATA APPLICABLE TO THIS PROJECT.								
EQUIPMENT DESCRIPTION								
SH-1, SH-2	•		•	•	•	•	•	

SEQUENCE OF OPERATION

1. WHEN AIR HANDLING UNIT IS RUNNING, THE HUMIDIFIER AND ITS CONTROLS SYSTEM SHALL BE ENABLED.
2. DURING NORMAL OPERATION THE HUMIDIFIER SHALL BE CONTROLLED BY THE HUMIDIFIER MANUFACTURERS PACKAGED CONTROL SYSTEM, INCLUDING ALL CONTROL VALVES AND SAFETY DEVICES.
3. AUXILIARY POINT CONTACTS SHALL BE PROVIDED TO PASS ALL HUMIDIFIER CONTROL PANEL ALARMS TO BAS.
4. THE HUMIDIFIER OPERATING SET POINTS SHALL BE REMOTELY SET THROUGH THE BAS.
5. HIGH AND LOW SYSTEM PRESSURE(S) ALARMS SHALL BE SIGNALLED TO BAS.
6. WHEN RETURN AIR RELATIVE HUMIDITY (RH-1) FALLS BELOW SETPOINT, THE NORMALLY CLOSED HUMIDIFIER CONTROL VALVE (V-1) SHALL MODULATE TOWARDS ITS FULL OPEN POSITION AS REQUIRED TO MAINTAIN DESIRED RELATIVE HUMIDITY LEVELS.
7. A DUCT MOUNTED RELATIVE HUMIDITY SENSOR (RH-2) DOWNSTREAM OF THE HUMIDIFIER SHALL LIMIT THE MAXIMUM RELATIVE HUMIDITY IN THE DUCTWORK. SHOULD THE DUCT RELATIVE HUMIDITY EXCEED THE SETPOINT, THE LIMIT CONTROL SHALL OVERRIDE THE SPACE CONTROL TO LIMIT DUCT RELATIVE HUMIDITY LEVELS.
8. HIGH AND LOW LEVEL DUCT ALARMS SHALL BE INDICATED IF THE HUMIDITY (RH-2) LEVEL IN THE DUCTWORK EXCEEDS SETPOINTS.
9. LOCKOUT HUMIDIFIER WHEN NO AIRFLOW IS SENSED BY EITHER FAN STATUS, LOW FAN SPEED, OR LOW SYSTEM PRESSURE.
10. PRIOR TO ACTIVATION OF V-1, THE ON/OFF CONTROL VALVE V-2 SHALL BE ENABLED THROUGH ECC AND JACKET TEMPERATURE SENSED BY TSH SHALL BE WARM ENOUGH TO PREVENT CONDENSATION.

HUMIDIFIER (STEAM)



POINTS LIST

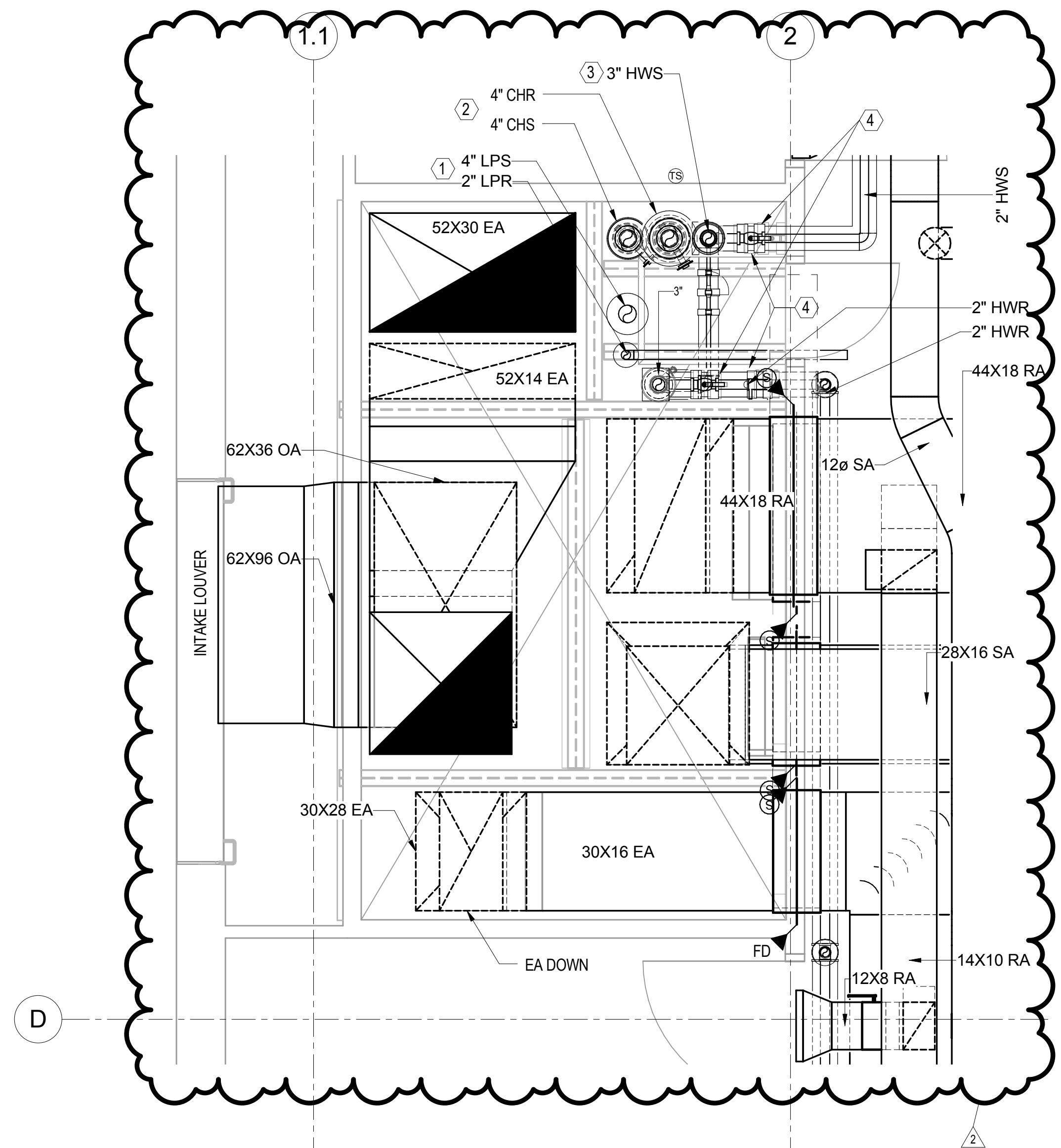
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		INPUT		OUTPUT					
NIGHT SETBACK SCHEDULE:		DIGITAL	ANALOG	DIGITAL	ANALOG	ALARMS ①	APPLICATION PROGRAMS ②		
<div>NOTES:</div> <div>① ALL HARDWARE AND ALARM POINTS SHALL BE REPRESENTED ON THE GRAPHICS DISPLAY</div> <div>② ALL APPLICATION PROGRAMS SHALL BE FULLY FUNCTIONAL USING DATA APPLICABLE TO THIS PROJECT.</div>		START/STOP							
		HIGH TEMPERATURE SAFETY SWITCH							
		AIR FLOW RATE							
		ROOM SET POINT ADJUSTMENT							
		STATUS							
		DISCHARGE TEMPERATURE							
		AIR FLOW RATE							
		FAILURE TO START							
		HIGH TEMPERATURE (ROOM)							
		LOW TEMPERATURE (ROOM)							
		CONDENSATE OVERFLOW							
EQUIPMENT DESCRIPTION									
FAN COIL UNIT: 50-FC-B3		•	•	•	•	•	•	•	•

SEQUENCE OF OPERATION

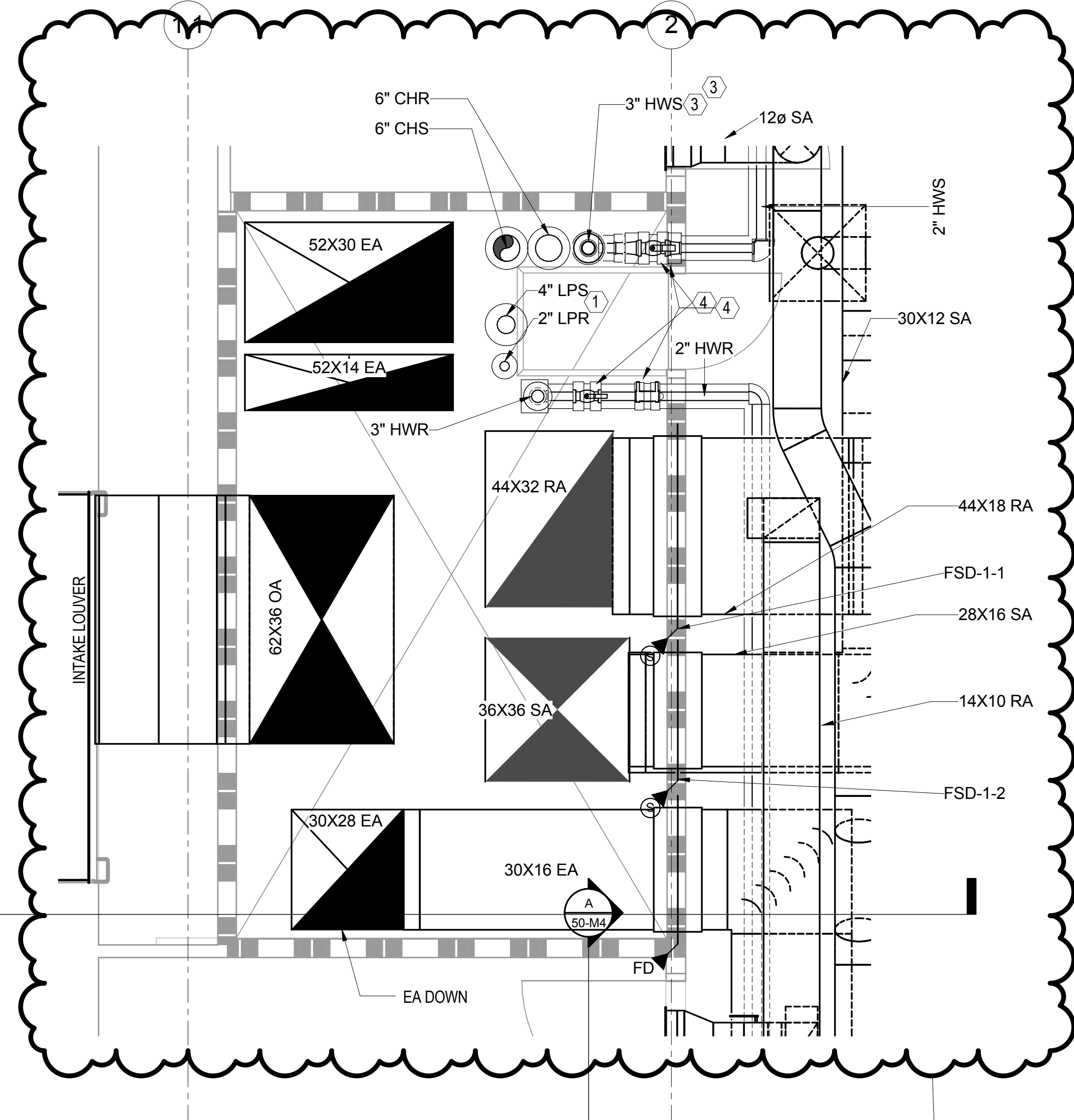
1. THIS SYSTEM SHALL SERVE AS SECONDARY COOLING FOR ELEVATOR EQUIPMENT. THE SCHEDULED TAB SHALL PROVIDE VENTILATION AND FIRST STAGE OF COOLING FOR THE ROOM AND SHALL MODULATE PER TYPICAL TAB SEQUENCE. IF SPACE TEMPERATURE FAILS TO MAINTAIN SETPOINT FOR 15 MINUTES (ADJ) AND/OR THE SPACE TEMPERATURE EXCEEDS 10 DEG F ABOVE SETPOINT, THEN FAN COIL SHALL START COOLING MODE.
2. COOLING MODE: WHEN THE ABOVE CONDITIONS ARE MET THE FAN SHALL ENERGIZE AND THE CHILLED WATER VALVE SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SET POINT. FAN COIL SHALL CONTINUE TO OPERATE UNTIL SPACE TEMPERATURE FALLS BELOW SET POINT, AT WHICH TIME THE FAN COIL SHALL DE-ENERGIZE AND CLOSE CHILLED WATER VALVE.
3. DURING COOLING MODE THE FAN SHALL OPERATE AT LOW SPEED TO CIRCULATE AIR WITHIN ZONE. IF ZONE SETPOINT CAN NOT BE MET AFTER 5 MINUTES THEN THE FAN SHALL MODULATE UP TO FULL SPEED UNTIL COOLING MODE IS DEACTIVATED.
5. FAN COIL SHALL SHUT DOWN ON FIRE ALARM.
6. UNIT SHALL SHUT DOWN AND VALVES SHALL CLOSE UPON CONDENSATE OVERFLOW ALARM.

CHILLED WATER FAN COIL - ELEVATOR MACHINE ROOM

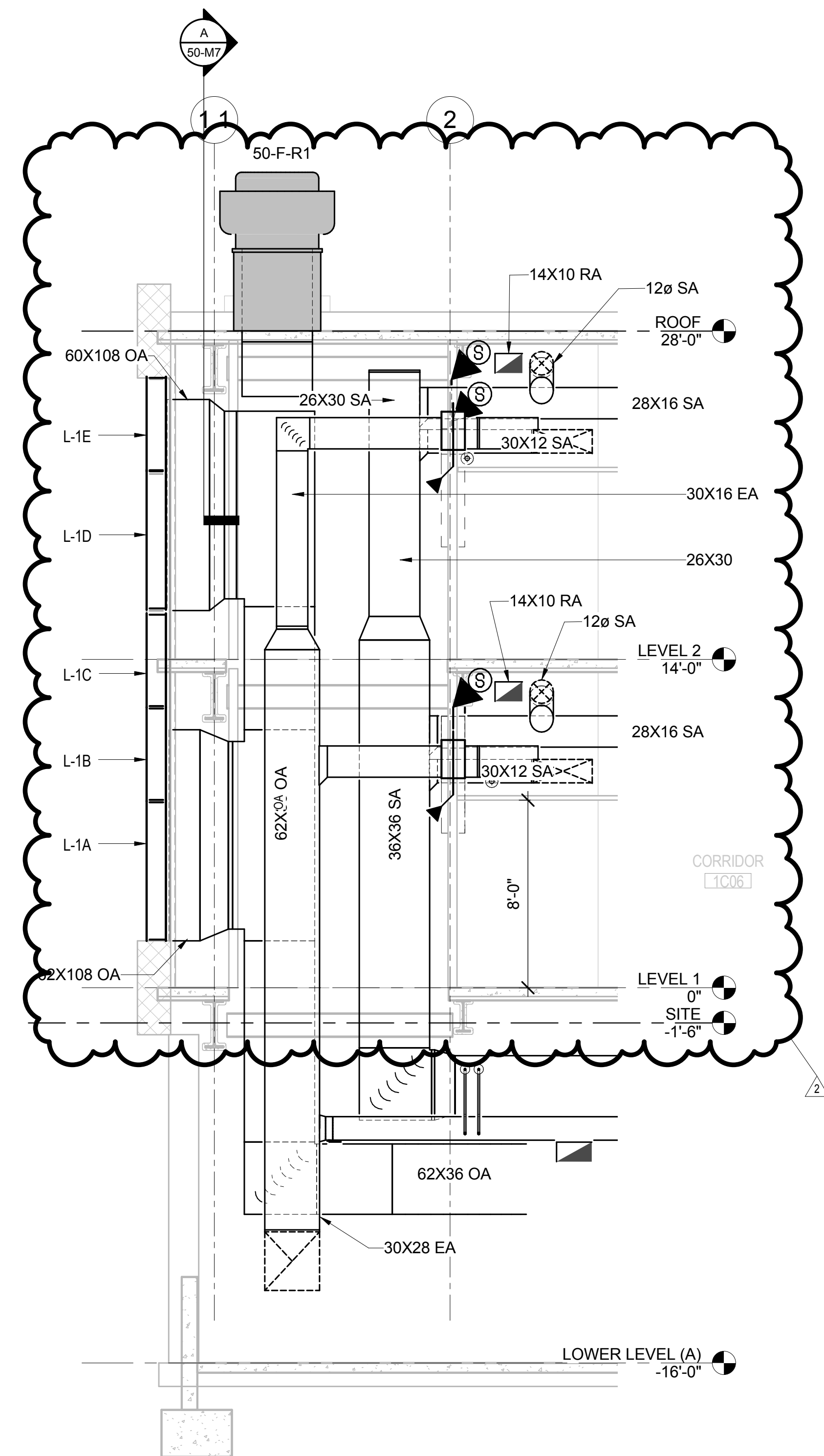
three inches = one foot
one and one-half inches = one foot
one inch = one foot
three-quarters inch = one foot
one-half inch = one foot
one-quarter inch = one foot
one-eighth inch = one foot



2 ENLARGED PLAN LEVEL 2
1/2" = 1'-0"



1 ENLARGED PLAN LEVEL 1
1/2" = 1'-0"

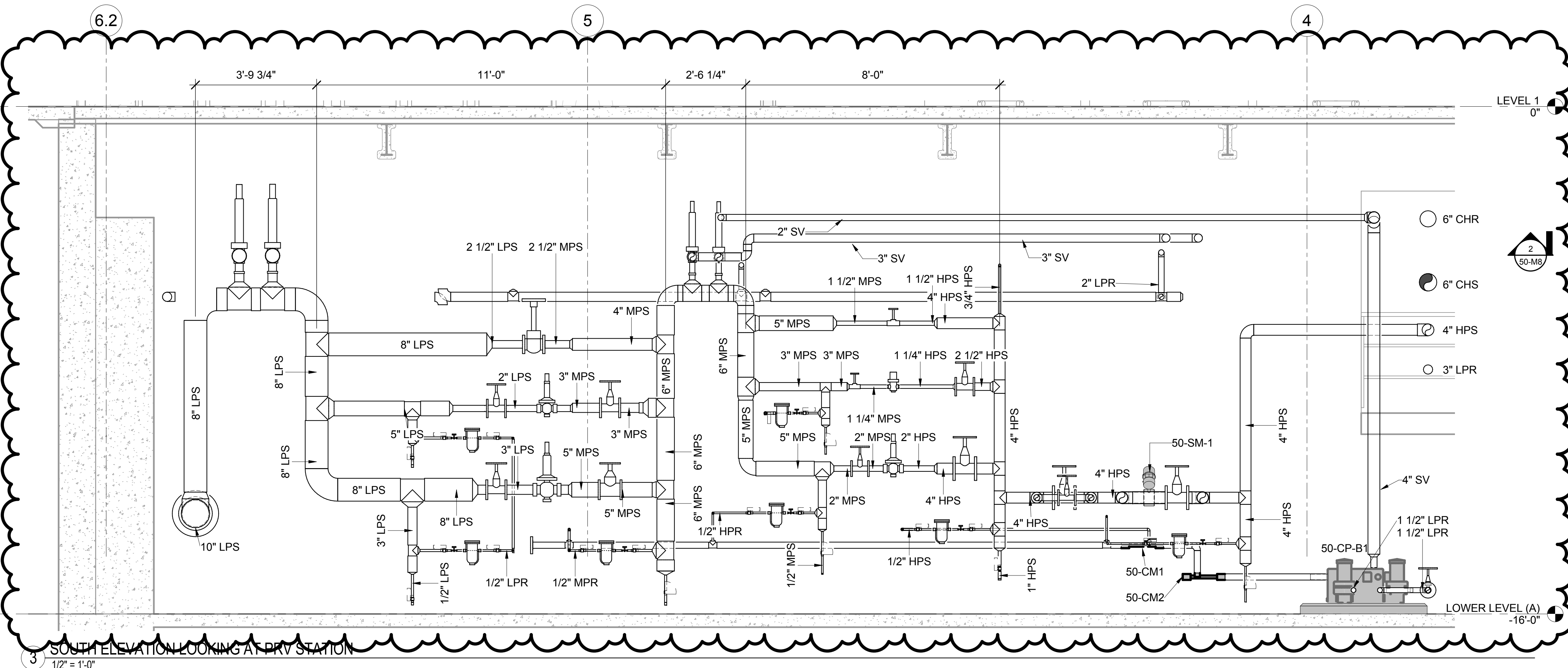
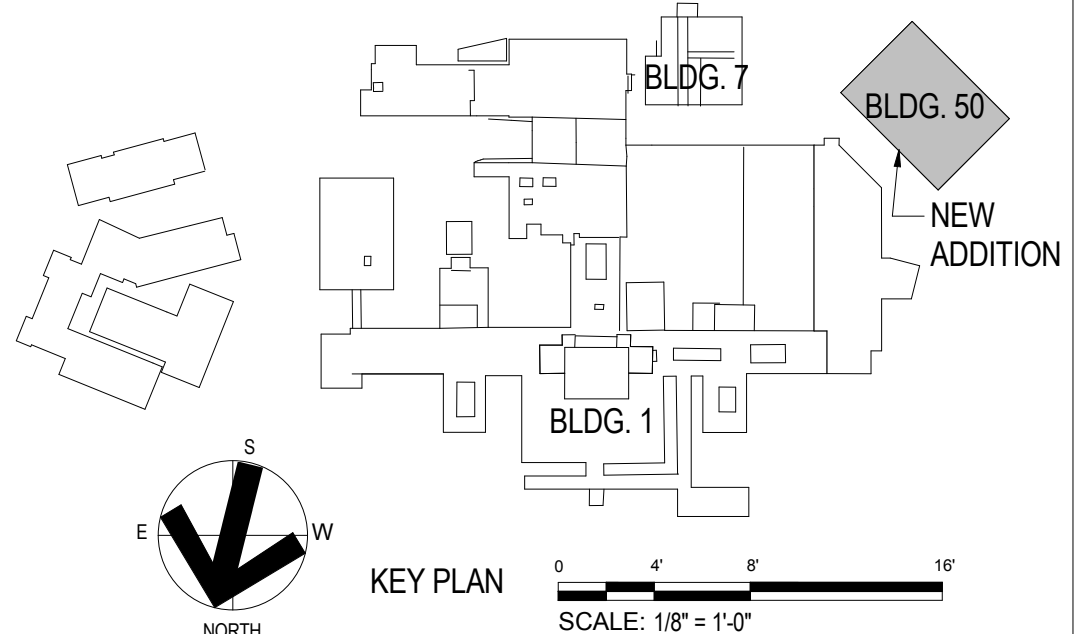


A MECHANICAL CHASE EAST-WEST SECTION
NOT TO SCALE

KEYED NOTES 50-M26

- 1 LPS & LR UP, VALVED AND CAPPED ABOVE CEILING OF LEVEL 2 FOR FUTURE CONNECTION.
- 2 CHS & CHR UP TO ABOVE CEILING OF LEVEL 2 WITH AUTO-AIRVENT, VALVE, AND CAP FOR FUTURE CONNECTION.
- 3 HWS & HWR UP TO ABOVE CEILING OF LEVEL 2 WITH AUTO-AIRVENT ABOVE CEILING WITH VALVE AND CAP FOR FUTURE CONNECTION.
- 4 ISOLATION VALVES ON HWS & HWR. FLOW CONTROL VALVE ON HWR.

NEW SHEET



3 SOUTH ELEVATION LOOKING AT DRY STATION
1/2" = 1'-0"

AMENDMENT 1	04/25/16
AMENDMENT 2	04/27/16
Revisions	Date

CONSULTANTS:

ARCHITECT/ENGINEERS:

HEERY design
Heery International Inc.
125 South Dubuque Street,
Suite 500,
Iowa City, IA 52240-4003
319.354.4700

project number
HII-1125509

Drawing Title
MECHANICAL HVAC ENLARGED
PLANS AND SECTIONS
CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED

Project Title
CONSTRUCT SPECIALTY
CLINICS ADDITION
Location
ICVA HEALTH CARE SYSTEM
Date
04/25/2016
Checked
PAB
Drawn
HRO

Building No.
BLDG 50
Project No.
VA# 636-315
DRAWING NO.
50-M26
Dwg 127.1 of 162

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Construction
and Facilities
Management
VA U.S. Department
of Veterans Affairs



1 STEAM FLOW DIAGRAM - PART B
NOT TO SCALE**CONSULTANTS:****ARCHITECT/ENGINEERS:**

HEERY design
Heery International Inc.
125 South Dubuque Street,
Suite 500,
Iowa City, IA 52240-4003
319.354.4700

project number
HII-1125509

Drawing Title
STEAM FLOW DIAGRAM PART B

CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
**CONSTRUCT SPECIALTY
CLINICS ADDITION**

Location
ICVA HEALTH CARE SYSTEM

Date
04/25/2016

Checked
PAB

Drawn
HRO

Building No.
BLDG 50
Project No.
VA# 636-315

DRAWING NO.
50-M29
Dwg 127.4 of 162

NEW SHEET

Office of
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and Facilities
Management

VA U.S. Department
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GENERAL NOTES STEAM

- ALL UNTAGGED VALVES ARE 1/2" BALL VALVES, CLASS 300.
- ALL STEAM TRAPS SHALL BE INSTALLED PER DETAIL 1/M25
- ALL CONDENSATE MIXERS (50-CMX) SHALL BE EQUAL TO THERMO FLO TYPE JCM CONDENSATE MIXER. SEE DETAIL 1/50-M27.

0
8
three inches = one foot
0
6
one and one-half inches = one foot
2
0
one inch = one foot
6
0
three-quarters inch = one foot
2
0
one-half inch = one foot
4
0
one-half inch = one foot
4
0
three-eighths inch = one foot
8
0
one-quarter inch = one foot
4
0
one-eighth inch = one foot
16
0
4
8
one-eighth inch = one foot

MATCHLINE
SEE 1/M20.1

2" CONDENSATE, UP
RISER AND CAPPED
AT BASE OF RISER
4" LPS UP RISER
FOR FUTURE LOADS
(1,800 lbs/hr ESTIMATED)

50-SV37

3" LPR

2" STEAM VENT
SLOPE BACK TO PUMP

2" LPR

50-CM3

1/2" LPR

PRESSURE GAGE
50-ST9

1" HIGH PRESSURE
MOTIVE STEAM SUPPLY
TO PUMP TRAPS

3/4" HPS

3" LPS

4" LPS TO FUTURE RISER
(~1,600 lbs/hr EST.)
4" LPS TO DOMESTIC
WATER HEATERS
(~1,800 lbs/hr)
6" LPS TO HEAT
EXCHANGERS
(~3,300 lbs/hr)
3" LPS TO AH
(~1,100 lbs/hr)

4" LPS TO DOMESTIC
(~1,800 lbs/hr)

50-SV20
2" LPS
4" LPS
50-SV19

2" LPS
1-1/4" LPS
50-SV22
3" LPS

1-1/2" LPS
4" LPS
50-SV27

50-SV23
50-SV24
2" LPS
4" LPS

50-SV26
2" LPS
1-1/4" LPS

50-SV25
2" LPS

4" LPS
50-WH-B1
1250 lbs/hr
R/C

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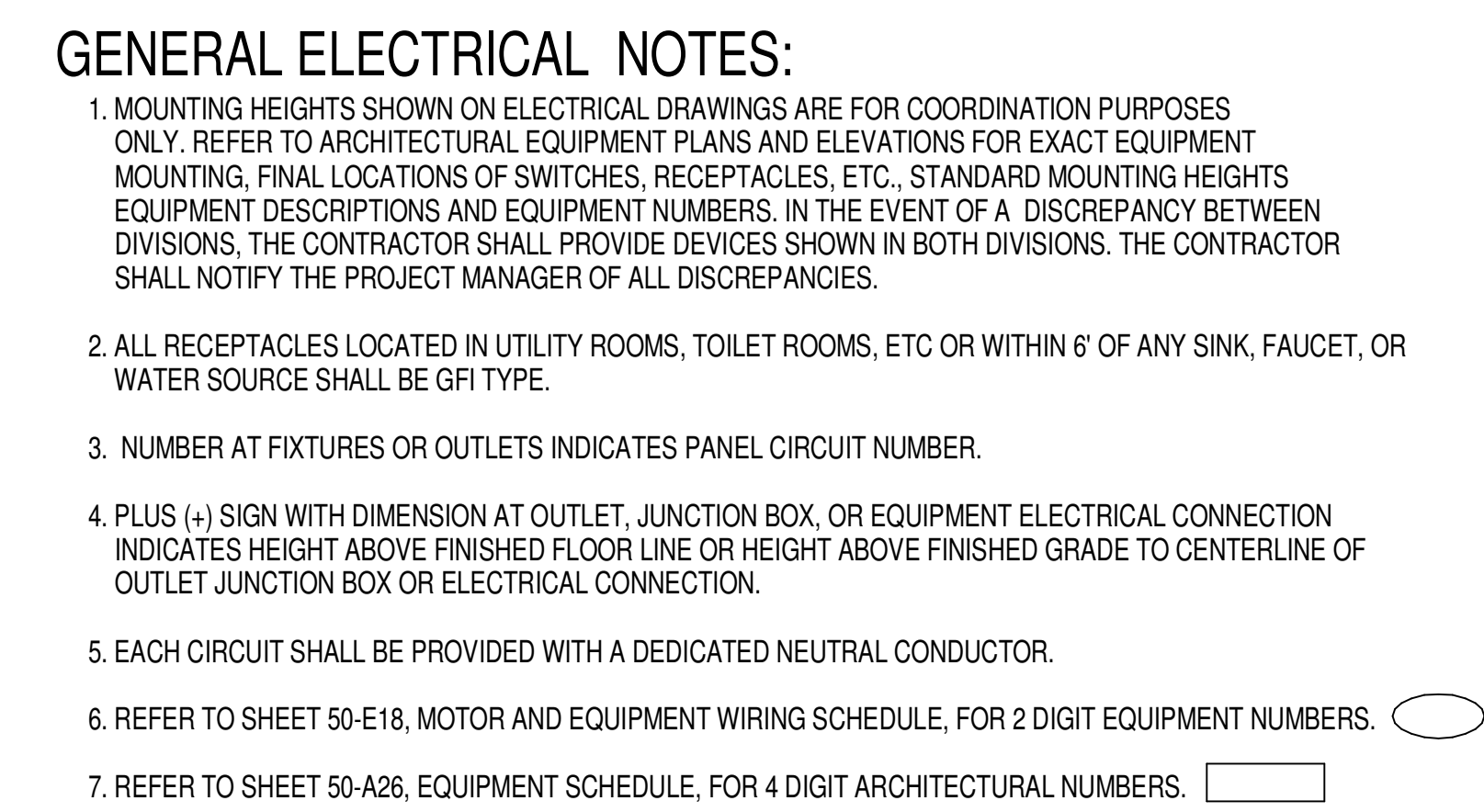
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